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LIFTING THE INCUBUS!

## For or Against

Mrs. C. K. Henry

Among the thousands of teachers who attended summer schools at college or university the past season, were a mother and her daughter.

Part of the advice from the mother, who was a teacher of long experience, to the young girl was: "Mabel, you will find that your instructors fall under two heads—*FOR* and *AGAINST*. By the *Fors* I mean those men and women who will make their subject so interesting and attractive that you'll like it, no matter if it's as dry as the multiplication table. The personality of such an instructor will mean far more to you than the subject-matter that he teaches. He will 'stimulate, encourage, and guide'—that's something I got in class today—so that you will do your very best for him, and with a minimum of effort. He will expect you to succeed. He will give you faith in yourself.

"Then you may have the misfortune to come under an *Against*, one who will open his very first lesson something like this, in words or in manner: 'Now if any of you have come here expecting this to be a cinch class, let me tell you you're in the wrong place. This is not a cinch subject, and I'm not a cinch professor. Your only salvation lies in good stiff work, up to the last minute. In this class you *work*, or you *fail*, as many do every session.'

"If you are assigned to such a one change to some other course if you possibly can."

This last advice was quite in accord with that of a very popular professor of wide experience, who said to a group of students, "Just so far as you can, select your instructors, then select your courses."

"To stimulate, encourage, guide." Do these words apply higher up, to superintendents, even to members of school boards? If you are a trustee, how many of your teachers do you recognize when you meet them? How many do you greet? How often have you accepted invitations to their receptions, or parties, or school exhibits during the past year? Have you any idea how much it means to the teachers, the interest you show in them and their work when you do attend? I wish you could hear the pleasure with which they say: "Mr. A was there, although he is such a busy man." "Mr. K brought his wife, and they joined right in with everything." "You can count on Mr. R if he can possibly make it; but Mr. G never takes the slightest notice of an invitation."

The main duties of a school board member lie on the administrative side, especially in a large system; but I have seen busy board members, heads of industries of their own, who still found time to "stimulate and encourage."

This is especially desirable in their relations with the superintendent. A progressive superintendent always wants more than his board can give him. But there are so many ways to refuse. Some school boards can refuse in such a way that the superintendent leaves the meeting feeling that, under the circumstances, he doesn't want the thing he has asked for; that there is no money to spend in that way at this time; but that, with such an appreciative and loyal board back of him, it is up to him to do his level best with the equipment already at hand. That meeting has aroused enough dynamic force to carry him through a week of work.

Then there is the board, often dominated by one man, that seems to exist only in order to criticize and oppose. Such a board can sit down on a superintendent so hard that he comes away from a meeting feeling as if a steam roller had gone over him. No recognition of the splendid school spirit he is building up, no sympathetic attitude toward his efforts to redeem and hold



the "bad" boys, not a word about his success in a particularly difficult problem.

He walks home after that meeting feeling very weak physically, feeling scarcely at all mentally.

The next morning he goes to school with no buoyancy in his step, none in his mental self. He tries his best to be "*For*" every teacher and every pupil who needs him that day, but it takes great effort. The day and the night have taken more out of him than many days of school work should have done.

We all know school boards, fortunately few, under whom it is almost impossible to succeed. They oppose and criticize. By their attitude they rob the superintendent of his best energy, and so rob the schools. You recall that, several years ago a large city went begging for a superintendent. School men were "wise" to that board.

When the problem of selecting a new superintendent faces a board, the *For* or *Against* element in his makeup should be one of the deciding factors. "Every institution is the lengthened shadow of one man," and a *For* superintendent can very early set the standard for his entire system.

In order to judge him in this respect, as in many others, one should not depend on an office interview. We do not judge a horse or a car that way, by their sheen, and glitter, and upholstery. We want to see them *on the road, at work*. That is the way to measure a superintendent—at work in his own school.

It requires little shrewdness to see what effect he has on teacher and pupil. There are schools in which, when the superintendent walks through the building he causes a sort of suspended animation; every one, teacher and pupil, is afraid to act naturally, and gets through the period with as little of his real self showing as possible.

Other superintendents are so encouraging, so appreciative that, when one of these goes through a building, every child wants to show off his particular stunt, every teacher wants him to hear her pet recitation. I am not theorizing. I mingle with teachers freely, and I could put down on paper the names of a number of superintendents under these two heads.

Not so many years ago the superintendent of a neighboring city boasted, in my presence, that he dropped about one-third of his teachers every year. That in three years he could squeeze the juice out of any but exceptional teachers. I wanted to quote George Herbert Palmer to him, but I didn't dare.

Dr. Palmer tells how, during the early years of his professorship at Harvard, he almost glee-

fully failed numbers of his students "because the high standard must be maintained." One day it suddenly came to him that when an appreciable number failed it was not that *they* failed with *him* but that *he* failed with *them*. With the changed attitude came a changed method, and a minimum of failures.

"But the work must be kept up to grade." Surely. But in the best schools that is accomplished without killing off one-third of the teachers every year.

In the days of horses, who got the best results, with the least wear on man or horse? The driver whose team kept their heads as far away from him as possible, or the one whose horses whinnied when they heard his step?

It has been suggested that there may be a large middle group of superintendents who are neutral, who neither help nor hinder. To help not at all is to hinder. "He that is not for me is against me."

The superintendent, or in a large system the principal, owes the same duty to a teacher that she owes to the children—"stimulation, encouragement, guidance." I heard a wonderful woman say to a class of teachers: "In the fall you will stand before your pupils and think. Here are these children. It is my responsibility to develop this class, to make such changes that, in the spring, I shall send out a finer product than I received today." Let us change only a few words: The superintendent stands before his first teachers' meeting in the fall and thinks: "Here are these teachers. Some of them are new and inexperienced. It is my duty to develop this group so that in the spring I shall be working with a finer faculty than I have today."

He has few failures.

I am interested in a girl who, after the bravest sort of struggle, achieved her college diploma (and a Phi Beta Kappa key) this spring. Then came the problem of a position. Through the efforts of friends she received an offer in a splendid system of schools. Someone urged her to hold off a while, in the hope of a better position financially. The superintendent I know best advised her to accept at once, and gave me his reasons: "Agnes is young and inexperienced. Her first year is most important. Under this superintendent and his principals she will get wise, sympathetic guidance that will create the best possible atmosphere for development. If she gets into a hard, negative system this first year it may mean failure. At best it will leave its mark on her for all time."

There are school boards, many of them, who almost invariably "pick a winner" in selecting a superintendent. It is not always due to their very able judgment of men; but to the fact that, after they have him, they evoke the very finest that he has to give.

Andrew Carnegie is frequently quoted as a man of almost infallible judgment in selecting his men. How much of his success with men was due to this "infallible judgment," how much to another quality?" Along with a conscience that was as rigid as a Puritan's he had a sympathy, a friendliness, a degree of sentimentality and affection that were wholly un-Puritanic. \* \* \* His loyalty bred loyalty."

—Commenting on the value of the visiting teacher's work, the Bowling Green, O., Sentinel-Tribune says: "The visiting teacher is a school attendance officer, but, instead of relying on threats and arrests to secure regular attendance of children, she seeks to find the underlying causes of absence or of poor work. These visiting teachers have found and listed these causes: Trouble between parents at home; feeble-mindedness; eleven P. M. bedtime; unintelligent or unjust punishments; doting mother; lack of clothes; lack of wholesome play; chocolate nut-bars for lunch; movie thrills; indifference of parents to school work; unsympathetic teachers; gang influences.

## Some Outstanding Present Demands of Democracy on School Administration

C. F. Perrott, Berkeley, Calif.

Democracy is a term much conjured with in current writing and discussion. The statesman, philosopher, and educator are using the term with great frequency. Just what is meant by Democracy? It seems reasonable to assume that it is something more than a form of government. Dewey says that "it is primarily a mode of associated living, of conjoint communicated experience." Lincoln in his unique way designated our government as one "of the people, by the people and for the people." Certainly either one of these conceptions is acceptable when one thinks of our way of living in the broad sense.

It shall be the purpose of this discussion to discover how present methods of school support are meeting the needs of a Democracy where we seek to educate all of the children of all of the people. It is not intended that this will be an exhaustive or comprehensive discussion. The main thesis will be that, while in theory we are committed to the principle of equality of educational opportunity, in practice we are yet far removed from this goal. But even more important than this, what will be the ultimate effect on Democracy if present conditions of educational inequalities are not in some measure corrected in the near future?

In practice, local support has come to furnish an increasing proportion of the revenue for local schools. County support has been somewhat feebly recognized in the south and west. Education as a function and duty of the state has long been recognized but state support as conceived in the light of modern school administration is only beginning.

Of the federal government Fletcher Harper Swift of Minnesota University says, "To aid the states in discharging their obligations, the Federal Government has given to the states out of its own wealth vast fortunes in land and money. The aim of these gifts was to make education universal, free, and equal. All data at hand show conclusively that not one of these aims has been realized."

The first of the demands of Democracy on school administration is that opportunities for education should be made universal. Unless we have studied carefully recent investigations in the matter of tax-supported education, we may be startled at the suggestion of such a demand. Has it not been heralded from east to west, and north to south by the press, from the platform and in legislative halls that in this land of the free all have equal opportunity to rise to the highest places in the nation regardless of social status, wealth or location because education was free to all?

### Education Not Universal

Notwithstanding, education is not universal in the United States today. Kansas, a state whose relative standing in many matters is high, had only 48 per cent of its children of school age actually attending school in 1923. During this same year there were included in the census of one-room country schools of the state 214,928 children of school age. Of this number only 48 per cent actually attended.

In order to get a picture of the entire country in this matter we find that in spite of the low percentage of pupils attending, Kansas ranks seventh among the states as to percentage of children attending school. This condition clearly indicates that there are hundreds of thousands of children of school age in the country today who are not in our schools.

That lack of universal education is largely responsible for illiteracy cannot be denied. We are prone to feel that illiteracy is limited to

the negro and the foreign-born, and excuse ourselves by insisting that education with these people must be accomplished gradually, yet the 1920 census reveals approximately 1,250,000 native-born white illiterates. For these we have no alibi. It is indeed a serious matter when in the year of 1923 in one state there were 20,000 children of school age who never darkened the door of a schoolhouse, not through indifference of the children or failure to enforce the compulsory attendance laws but because educational facilities did not exist.

Yet in the face of such conditions we are confessedly the richest nation on the globe today, a democracy tolerating a condition which the progressive absolute monarchies of the world would not permit.

### Implications of Democracy

What are the implications for Democracy?

If we accept Dewey's definition of a democracy that it is primarily a mode of associated living, of conjoint communicated experience, then we must admit that the individual must be free to develop to the fullest extent of his capacity, if the richest outcome is to follow. Government of the people, by the people and for the people demands that voluntary dispositions and interests must be forever encouraged. These can be encouraged best through education. If hundreds of thousands of our citizens are denied the opportunity for education, voluntary dispositions and interests are discouraged.

As interests are encouraged through education the individual absorbs the aims of meaning of organized institutions. A recent writer insists that "the extension in space of the number of individuals who participate in an interest so that each has to refer his own action to that of the others and to consider the action of others to give point and direction to his own, is equivalent to breaking down of those class barriers, race, and national territory which kept men from perceiving the full import of their activity. Varied points of contact denote a diversity of stimuli to which an individual has to respond. This puts a premium on variability."

If a large variety of shared undertakings is denied to many, some are educated into underlings and the others to be masters. Here lies a significant danger of American democracy. We are permitting conditions to exist where free interchange of experiences is denied to many. If growth comes through contacts and continuous readjustments, if general possession of extant knowledge is necessary in a mode of associated living, such as we are committed to if external authority is to be repudiated and voluntary dispositions and interests are to be substituted, if in a democracy opportunity for

education is to be made accessible to all on equal terms, then school administration has a serious task confronting it, for education is far from being universal today.

### The Tuition Evil

Not only is education not universal but it is not free. It is certainly not presuming to state that we are committed to equal opportunity for all children from the kindergarten to the university. The days of rate bills and tuition charges for individual pupils at their own expense is looked upon as history by most of us. However, Fletcher Harper Swift in his survey of the state of Alabama in 1923 found that \$484,000 had been paid in the form of tuitions and private donations for high school privileges that year. In the state of Arkansas medium size cities are today charging tuition for high school attendance. Those whose parents are able to pay such tuition have the opportunity for education; those whose parents are not able, are denied the opportunity. Yet our Fourth-of-July orators and Chautauqua lecturers tell our citizenry that opportunity for education is free to all. It is far from the truth and present school administration permits such conditions that will ultimately undermine our democracy and substitute for it an autocracy of wealth.

According to State Supt. A. B. Hill of Arkansas, in 1922 there existed a district in that state which, if it levied the maximum permitted by the state constitution for 25 years, it could at the end of that time actually maintain a nine months' school with a competent teacher. It would probably not be far from the truth to state that situations of similar nature probably exist in other states.

What are the possible outcomes of such conditions? It appears that we may not be concerned over the results of such conditions to democracy. Where such conditions are not corrected we give impetus to classicism and autocracy. Education to personal initiative and adaptability is denied to many because of personal financial reasons.

Plato defined the slave as one who accepts from another the purposes which control his conduct. Slavery in the legal sense need not obtain, but where people are engaged in activities which they do not understand, slavery in a real sense exists. Social and political movements are frequently begun by individuals who are at the extremes of the social scale with respect to some doctrine. The deciding vote is nearly always cast by people between the extremes. Here lie the great mass of the people. Dewey states that "people are beginning to realize that everyone regardless of class has a right to demand education which shall meet his own needs and that for its own sake the state must supply this demand."

### The Evil of Inequality

If democratic government is organized on the basis that just powers are derived from the consent of the governed, individuality must be esteemed not only as a private possession, but also as a means by which real value can enter into the world. To accomplish the development of individuality as conceived in a democracy no one must be denied the opportunity for education because of lack of ability to pay tuition fees. The doors must be open and free to all.

Bryce, in *Modern Democracies*, insists that "inequalities, by arousing jealousy and envy, provoke discontent. Discontent disturbs the harmony of a community and induces strife. Hence equality in political rights, while it benefits the community by opening to talent the opportunity of rendering good service, tends also



to peace and good order." If we substitute for "equality in political rights," equality in educational rights, I believe we will reach the same conclusion.

Where opportunity for education is denied, we open the way for a docility that is injurious to democracy. Kilpatrick defines docility in the bad sense as such where there is no freedom—but simply blind obedience. Where personal initiative and adaptability have been denied opportunity of development, we are likely to find such docility. Individuality develops best where it can feed on common interests and common activities.

Not only does democracy demand of school administration that education be universal and free, but that it must be democratic. What does the investigator find?

First, he finds school terms of varying length from several weeks per year to as much as 200 days per year.

#### Rural Disparities

Comparing conditions between the rural and urban sections the disparities are appalling. While the population of the country is almost divided equally between rural and urban communities, while the bulk of our immigration, among whom the percentage of illiteracy is high, is found in our cities, yet we find nearly 3,000,000 illiterates in our rural population as compared to 2,000,000 illiterates in our urban population. This is not to be marvelled at when we note the difference in opportunity between the rural and urban child.

#### 1918

#### Rural Child

Days attended .....	143
Cost of Education.....	\$ 40.14
Taught by Untrained Teacher.....	729.00

#### Urban Child

Days attended .....	182
Cost of Education.....	\$ 60.13
Taught by Trained Teacher.....	1,653.00

Glaring as these inequalities between rural and urban children are, we find the varying income per child, and the expenditures for education per child even worse. In the five richest states in 1919, we find the average income per child to be \$3,356 while in the five poorest but \$960. In 1920 the expenditures for education per child varied from \$50.37 to \$10.70. Gross inequalities in wealth and educational opportunity exist not only between states and within parts of a state but even within parts of the counties of a state.

Going back to our conception of democracy, how can we square the definition with the facts? Obviously it is impossible. Education from this standpoint is not democratic. The administrator must be concerned with outcomes. If we accept the development of notables under our present system as a measure of developing leaders we find that *in proportion to population*, over six times as many notables are born in urban as in rural communities.

Present conditions are obstructing the free development of individuality which is the center of all reference for group progress in a democracy. Equality of opportunity requires an education where learning, social experiences, and a recognition of the meaning of what is done is required from the start and for all. An educational philosopher says that "a society which is mobile, which is full of channels for the distribution of a change occurring anywhere, must see to it that its members are educated to personal initiative and adaptability. Otherwise they will be overwhelmed by the changes in which they are caught and whose significance and connections they do not perceive." This shows again that the individual as such is important, only as he absorbs the aims and meanings of organized society and as he attains personality. Where he is denied such opportunity, personality does not develop to its

fullest and democracy is in turn denied the increment it is entitled to and on which its stability and continuity depend.

#### The Test of Rural Schools

In another place the same writer states that "The test of all institutions is their capacity to develop human individuals without respect to race, sex, class, or economic status." Evidence certainly is plentiful that present school administration, as respects urban vs. rural education, suffers severely under such scrutiny. The rural child does not have equal opportunity with the urban child.

Thus we have these three outstanding demands, among many others, that must be met in our democracy. Efforts are being made in some of the states to iron out these inequalities. Consolidation or unionization of rural districts, standardization of present one-room rural schools are parts of the movement to equalize educational opportunities as between urban and rural communities.

Larger units of support and control, such as the county and state, are movements in the direction of equalizing conditions over these

larger areas. But many of these movements rather than ironing out the inequalities are making them even greater by recognizing, in addition to the principles of "equalization of educational opportunity" and "equalization of tax burden," the principle of "recognition for special effort." Thus a premium is placed on that community, which is already able to furnish an adequate educational offering, special forms of aid for parts of their offering which they can easily furnish without much effort. The community which is unable to initiate these special forms probably needs them most but is unable to initiate them.

It is not the purpose of this discussion to evaluate the various methods already in use and others that are being proposed. Such an evaluation would easily lend itself to an extended paper itself.

In conclusion, then, it is proposed that while there are many demands by democracy on school administration today, that opportunity for education must be made universal, free, and Democratic. If the inequalities that exist are not met in large measure, it is doubtful if democracy in its real sense can ultimately succeed.

## What Is School Administration?

### A School Board President's Inaugural Address

When Frank L. Shull assumed the chairmanship of the board of education of Portland, Oregon, he outlined his conception of school administration in an inaugural address, from which we reproduce the following extracts:

"In assuming the position of chairman of this board, I should like to present some thoughts with a view to the greatest efficiency in the transactions of the board. I do this more freely for the reason that, in my opinion, the present board is conscientiously endeavoring to fulfill its obligations to the public. Every member is striving to give the best that is in him for the benefit of the schools. However, the experience of boards of education in other cities, and our own experience as well, have established certain principles of action, which to my mind cannot be questioned.

"It happens that the method of conducting school affairs in Portland conforms almost exactly to the best established practice in the country. Three years ago the bureau of education made an analysis of surveys of schools in various cities and reached the following conclusions, which in practically every instance, are fulfilled in Portland:

"1. A board of education is necessary.



F. L. SHULL,  
President-Elect of the Board of Education,  
Portland, Ore.

"2. The board should be elected by the people.

"3. The board should be small, with a membership of about five or seven, elected at large for a term of five to seven years.

"4. School board members should not receive pay for service as board members.

"5. City schools should be under state control. The school board should not be hampered in its work by detailed state laws; it should have freedom to develop as good a school system as the people of the city want.

"6. The school board should be independent of the city officials and should have power to determine within statutory limits the amount to be spent on schools.

"7. There should be few or no standing committees.

"8. The school board should confine itself to matters of policy and employ a superintendent and others to execute.

"9. There should be but one executive head to the school system, and that head should be the superintendent.

"The first and most important suggestion that I have to make is contained in the last recommendation just read. The superintendent of schools should be the head of all its departments. In saying this there is no reflection upon the departments as conducted heretofore. Our business and properties departments are well managed, and are giving their best support to the superintendent and the board.

#### Likened to a Business Corporation

"The function of the board of education is identical with that of a board of directors of a business corporation. The same principles apply in each case. It is now a well established fact, the result of experience, that the superintendent of schools should be the executive officer of the schools, and all departments should be subject to his control. Under this plan the superintendent will have no hesitancy in asking for information from either the business or properties departments, nor should he hesitate to recommend to the board any changes that seem to him necessary for the better operation of the schools.

"Another practice is also well established in the experience of successful schools. It is that members of the board as individuals have no more authority in school matters than have citi-

(Concluded on Page 157)

# Accounting Control of the Income Needs of a School District

Fred Engelhardt, University of Minnesota

Planning the budget of the expenditures to be made in a public school system is much simpler than estimating and controlling the income. Methods of procedure in the control of the spending program and its operation within fixed limits can be planned quite accurately. It is much more difficult to control income in such a way that cash will be available when cash is needed. The sources of income are frequently far removed from local school board control. So far removed, at times, that little planning seems at first possible. Yet in spite of these apparent difficulties, the proper control of cash is as important a factor in efficient and economical school management as is the control of expenditures.

On first thought, it would seem that the question of income control was of little concern to the school authorities of "dependent"<sup>1</sup> school systems. In the long run, however, inefficient control of income, irrespective of source of responsibility, may reflect ultimately upon the availability of funds for public school use. The problem is a more direct and immediate concern to school officials of the "independent" school system.

In a recently published outline of a "Study of School Economics,"<sup>2</sup> fifteen different ways were set forth showing various methods used by superintendents and school boards in eliminating waste and how they carried out certain economies through curtailments. All of these items were concerned with the spending program. Little consideration or study seems to have been given to the possibilities of avoiding waste in controlling the income of public school funds.

It can be assumed that in planning the school budget, all available sources of revenue and income are canvassed and their effect upon the financial needs ascertained. The financing of the program must depend primarily on revenue received from local tax levy and state aid in its various forms. These two major items are not usually under direct control of the school board. The laws involving the levying and collection of school taxes frequently create situations over which the local school board may have no power, yet when considered as a part of the efficient management of schools, they are matters which should frequently deserve collective action, resulting in modification of the tax collection procedure.

*The Control of Income from State Aid.* The various states have not as a rule provided adequately for the dates on which payments of state aid should be made. In fact, the methods of apportionment in many states make it impossible for school districts to anticipate the amount due from this source when budgets are planned. Even though these matters are specified in law, the failure of a state to pay promptly when funds are due, places no obligation on the state but leaves the local school district with the burden to carry. An attempt to adjust the problem of the date of payment of state aid is well illustrated by the following extract:

"The amount apportioned and allotted to each school district shall be divided into equal semi-annual installments, and the Superintendent of Public Instruction shall draw his warrants semi-annually upon the State Treasurer in favor of each district for the amount to which it is entitled, and payment thereof shall be made to fourth-class districts during the months of February and August of each year, to second and third-class districts during the months of March and September of each year, and to first-

class districts during the months of April and October of each year."<sup>3</sup>

*The Control of Income from Taxes.* That better control of income may be made possible by the amendment of the tax laws<sup>4</sup> is illustrated by a recent modification of the penalties charged to delinquent taxpayers. The amended law in question provides as follows:

1. That a rebate of one per cent shall be allowed on all taxes paid before August 1.
2. A penalty of five per cent shall be added on all taxes not paid before October 1.

3. On the first day of January following and on the first day of each succeeding month thereafter during which taxes remain unpaid, an additional penalty of one-half of one per cent shall be added.

The above procedure is not new or unique. It is set forth here to illustrate the possibilities of an intelligent control of tax income. If these rebates and penalties are based on a statistical analysis of income needs rather than on judgment, the procedure would, no doubt, go a long way in conserving public moneys.

*Temporary Loans.* The usual practice found in most independent school districts is for the school boards to borrow money on short term loans from local banks, when the necessary cash is not on hand or in anticipation of state aid or local taxes. Some states restrict the amount of money that can be borrowed<sup>5</sup> on temporary loans in terms of a percentage of the taxable valuation, and also limit the period during which such loans can remain outstanding. Usually there is no definite plan made in anticipating the amount to be borrowed. The loan is made as the occasion arises.

The usual restrictions and limitations that confront private enterprise when resorting to borrowing do not face the school boards. Banks rarely seem to object to loans to school districts. The public naturally pay for the use of such borrowed funds. The rate charged is the usual commercial bank rate of six per cent. Public school districts can usually borrow money on long term issues at four or five per cent. Most commercial enterprises are unable to do this. In contrasting these rates with the normal commercial rate paid for temporary loans, it would seem that the school district is getting its money at a relatively high cost. The money paid in interest is a charge against the funds available for current school purposes. Frequently funds so expended have directly restricted and limited the current educational program.

The practice of borrowing is one which can be resorted to and covered up in accounting so that the public will know little about it. The soundest policy in regard to borrowing on temporary loans is still to be determined. It is a problem for each district to consider. The following table shows the extent to which school boards may resort to borrowing. At the close of the school year 1922, there were seventeen million dollars outstanding in temporary loans in the State of Pennsylvania. These data are given because in the majority of state reports outstanding bonds are not usually separated from temporary loans.

## OUTSTANDING TEMPORARY LOANS IN THE STATE OF PENNSYLVANIA AT THE CLOSE OF THE SCHOOL YEAR<sup>6</sup>

School Year 1921-22 (a)				Interest Paid
School Districts	Total	Temporary	on Tempor-	
by Population	Current	Loans Out-	ary Loans	Income from
Groups	Expenditures	standing	during Year	
500,000 and over	\$23,930,888	\$ 3,293,100	\$127,457	
30,000 to 500,000	12,500,934	1,037,043	38,931	
5,000 to 30,000	24,442,036	5,383,455	177,074	
Under 5,000	30,015,797	7,350,677	308,453	
Total	\$90,880,655	\$17,073,275	\$651,915	

(a) Items listed to nearest dollar.

<sup>3</sup>Pennsylvania School Law, 1923, Sec. 1210—Par. 23.

<sup>4</sup>Digest of Educational Laws, Bul. May 25, 1925, Harrisburg, Pa.

<sup>5</sup>Pennsylvania School Law (1923) Section 508.

<sup>6</sup>"Statistics of Public Schools," 1919-1922, Harrisburg, Pa.

For example, consider the small districts under 5,000 population. The average valuation per district in 1922 was \$725,000. The average annual budget was \$12,900. The average amount of outstanding temporary loans during the year was \$3,150 per district. The question that at once arises is whether borrowing to this extent is necessary and consistent with efficient educational managements. That is to say, is this the most economical way to finance these school districts?

This situation is not wholly peculiar to Pennsylvania. Some states have special provisions where outstanding orders may be considered the same as notes and carried at current interest rate "Until the Treasurer serves a written notice upon the payee or his assignee personally or by mail that he is prepared to pay such order."<sup>7</sup>

The total outstanding orders in Minnesota at the close of the school years 1921-1922 and 1923-1924 were as follows:<sup>8</sup>

Year	Current Expenditures	Outstanding Orders
1922	\$56,344,000	\$4,709,261
1924	59,316,000	4,337,003

The following illustrates some of the extreme cases of borrowing as shown by the annual financial reports submitted by school districts to the Minnesota State Department of Education in 1923-1924:

District Number	Outstanding Temporary Loans	Tax Levy
A	\$1,657,290	\$1,171,000
B	165,000	102,639

In speaking of this floating debt in Minnesota, Friswold says:

"Although the situation in School District A is very undesirable, there are other high school districts which have incurred amounts of floating indebtedness relatively greater. District B has a floating debt equal to 158.8 per cent of its total levy for school purposes in 1924; District C 167.6 per cent, and District D 182.5 per cent."

It is difficult to say offhand just how serious this problem is or what the limit of borrowing should be. It is evident that the problem is one which should concern some districts and that the proper and intelligent accounting control of income might result in real economy and better administration.

*Monthly Demands for Cash.* The following tables and charts have been selected from a large number of actual cases to illustrate the relationship between the monthly income and expenditures in these selected districts and their bearing upon the local situation. In each of these cases, the amounts are shown to the nearest dollar.

### CASE I. STATEMENT OF MONTHLY INCOME AND CURRENT EXPENDITURES

School Year 1924-1925

Month	Current Expenditures	Total	Income from Taxes	Other Sources
July	\$25,113	\$181,254a	\$ 355	
August	15,106	411		411
September	94,361	78,041	\$ 78,000	41
October	95,543	96,007	64,000	32,007
November	91,460	97,028	97,000	28
December	83,467	95,104	90,000	5,104
January	84,005	141,392		141,392
February	79,976	9,859		9,859
March	111,840	121,009	121,000	9
April	83,712	75,027	75,000	27
May	80,952	84,021	84,000	21
June	79,748	156,819	119,445	37,374

(a) Includes balance available July 1, 1924.

The data in the above table is shown graphically in Chart I. With a large balance at the beginning of the school year, ample funds are made available each month to meet the needed cash demands. A minimum of borrowing is thus necessitated. The funds available at the beginning of each month are also shown in this chart. The question may be raised as to how large a balance a school board should carry over

General School Law, Minnesota, Chap. 350.

Public School Indebtedness with Special Reference to Minnesota, I. O. Friswold (University of Minnesota Library).

<sup>1</sup>McGaughy, J. H.: *Fiscal Administration of City School System*, Page 2.

<sup>2</sup>A Study of School Economics, Buckingham and Reeder, Educ. Research Bulletin, Ohio State University, Feb. 18, 1925.

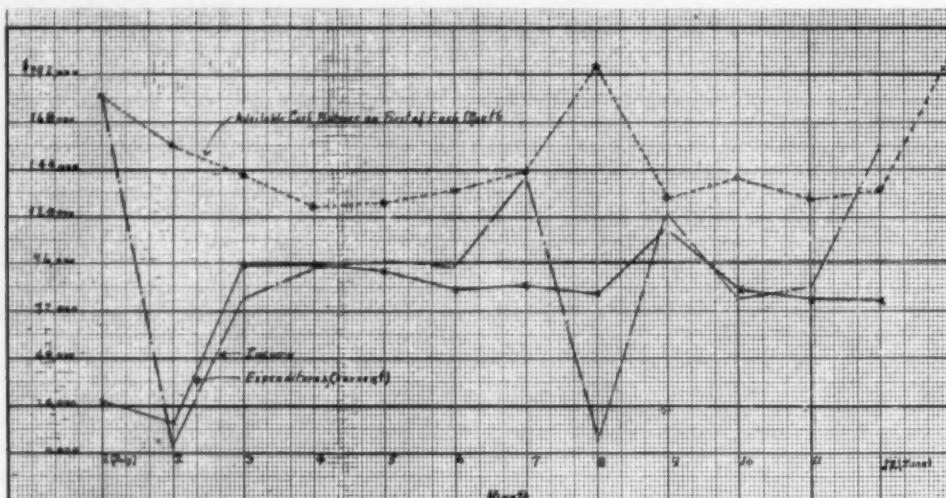


CHART I. THE INCOME, CURRENT EXPENDITURE, AND CASH BALANCES AVAILABLE AT THE BEGINNING OF EACH MONTH DURING ONE YEAR, CASE I.

from one year to the next. The answer must be determined by proper accounting control and the statistical analysis of these accounts. It might be observed after a critical review of this chart that the available cash balance in this case may be too large.

**CASE II.—STATEMENT OF THE MONTHLY INCOME AND CURRENT EXPENDITURES**

School Year Beginning Jan. 1, 1924

Month	Current		Temporary
	Expenditures	Income (a)	
January	\$1,954,677	\$ 1,756,172b	\$ 3,124
February	2,126,356	3,396,338	17,007
March	2,215,152	1,022,682	21,883
April	2,420,273	447,983	577,873
May	2,299,241	894,272	493,238
June	2,492,705	528,302	18,415
July	1,291,252	1,014,223	14,437
August	5,888,901	12,805,387	3,816
September	2,536,140	1,350,743	30,426
October	952,906	932,731	42,949
November	3,874,653	632,041	1,072,641
December	2,768,160	1,616,375	58,829

(a) Excluding temporary loans.

(b) Includes balance on hand at close of year.

A situation quite different from the one outlined above is shown in Case II. Even with the relatively large balance on hand at the beginning of the school year (Jan. 1, 1924), the monthly cash income is not large enough to meet the demands, and the school board is required to fall back on temporary borrowing. The facts of this table are more clearly set forth in Chart 2.

Each of the school districts selected as case illustrations are independent cities in states having marked differences in the laws and practices related to income. Since approximately 75 per cent of the monthly demand for cash is in the form of salaries, it becomes quite im-

perative that the necessary cash be available when pay rolls are due. When cash is not available, there is only one alternative, and that is to borrow. Case III is a typical illustration

of the traditional practice of many school boards. Chart 3 shows clearly the monthly need for cash and points out the possibility that proper accounting might afford those responsible in the anticipation of cash requirements.

**CASE III. STATEMENT OF THE MONTHLY INCOME AND CURRENT EXPENDITURES**

School Year 1924-1925

Month	Income (a)	Current Expenditures
July	\$ 1,857	\$13,838
August	6,280	13,313
September	635	13,273
October	.....	19,536
November	50	17,210
December	76,911	19,990
January	830	16,340
February	6,473	19,122
March	230	17,271
April	.....	16,922
May (b)	38,817	16,407
June (b)	3,454	15,900

(a) Temporary loans excluded.

(b) Estimated.

*Accounting for Revenue in Small Districts.* The need for the proper accounting of revenue even in a small school district is shown by the following extract from the Robbinsdale Survey.<sup>7</sup> In this case, the fiscal year or tax year begins on January first, and the school year begins on August first.

"Taxes are levied and collected during the calendar year. The schools are operated for a

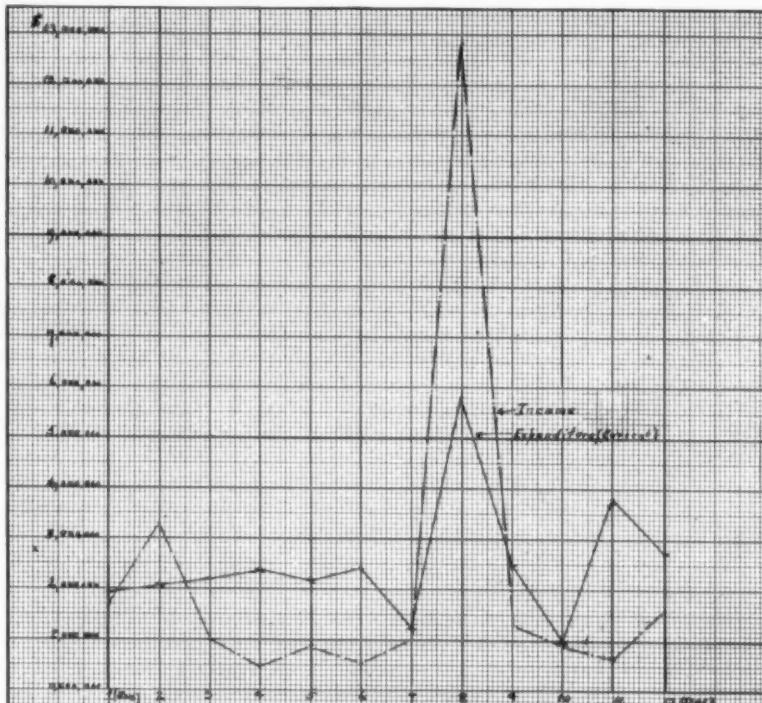


CHART II. INCOME AND CURRENT EXPENDITURES FOR EACH CALENDAR MONTH FOR THE SCHOOL YEAR BEGINNING JANUARY 1, 1924, CASE II.

fiscal year beginning on August 1. This fact requires careful planning in order that maximum use can be made of tax income when available. In planning the budget, it is essential that the tax levies requested meet actual needs. If one compares the tax levy for any one calendar year with the actual tax receipts indicated in the annual report of the school district for the corresponding year, there appears to be a wide divergence. This is illustrated in the following table:

**Tax Levy Made by County Auditor for School District No. 24, for Calendar Year and Taxes Received for Corresponding School Year as Indicated in Reports on File in the State Department of Education**

Calendar Year	Tax Levy for Calendar Year	Year Ending in July 31	Receipts of School Taxes
			State Department Reports
1925	\$61,109	1925	.....
1924	51,510	1924	\$40,511
1923	41,527	1923	30,781
1922	31,019	1922	19,036
1921	36,140	1921	12,973
1920	13,102	1920	9,704

"Unless the budget is carefully planned, a difference between the time when taxes are paid and the time when funds become available, may cause an unnecessary loss to the district on money standing idle for several months. The school district, no doubt, receives all the money due on account of these levies. This is not the point in question; but unless a careful account-

<sup>7</sup> Robbinsdale Survey, Page 35. Fred Engelhardt.

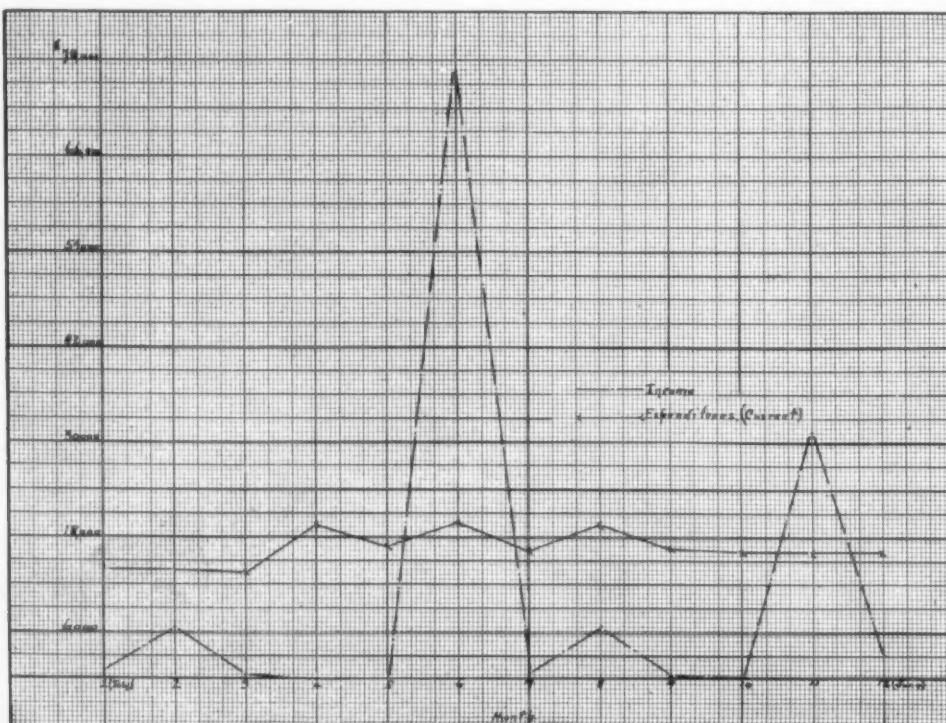


CHART III. SHOWING THE MONTHLY INCOME AND CURRENT EXPENDITURES FOR THE SCHOOL YEAR 1924-25, CASE III.

## SCHOOL BOARD JOURNAL

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ing is made by each school district of taxes accrued and due, paid and unpaid, it is rather difficult to understand how any actual knowledge relative to tax income can ever be determined under the present plan. An account with the tax collector is essential to good budget-making as well as a fundamental principle in the economical financing of a public school system."

Just a cursory study of these selected cases seem to indicate that the control of income is a matter that should receive the consideration and thought of every school board and the fiscal officers who are either directly or indirectly responsible for the funds of the district. Each school board must answer the question as to whether the price paid for borrowed capital makes it possible to render educational services more effectively and more efficiently than immediate direct taxation. That is to say, whether paying for borrowed money at current bank rates and deferring actual payment for current school needs is to the best interest of the taxpayer and the public schools. The public should know what their money is buying and how the income of the district is related to the cost. Current methods of accounting and reporting do not always set forth these facts clearly to the public.

*Principles to be Considered in Borrowing.* It might be well to consider some of the basic principles or factors that relate to the borrowing of money on temporary loans by school authorities. They may be summarized as follows:

1. School authorities should not confuse the principle of borrowing on temporary loans for school purposes with similar borrowing for private enterprises.

2. Temporary loans for school purposes can usually be easily secured, and do not involve the same scrutiny into financial conditions as in the case of private enterprises.

3. Temporary loans are frequently temptations in public school financing in that they provide a possible means of gaining temporary political advantage in avoiding increasing tax rates.

4. Financing through temporary loans is easily covered up from general public knowledge.

5. Poor budgeting is usually indicated by the amount of temporary loans outstanding.

6. School boards may pass on to new boards deferred debt, if temporary loans are not carefully accounted for.

The following principles should guide school boards in the use of temporary loans as a method of providing current cash needs:

1. Temporary loan needs should be anticipated and planned for as a definite part of the budgeted income program.

2. The amount to be borrowed should be based on careful accounting estimates and should not be the result of the guess or judgment.

### Form 3

#### COMPARATIVE ANALYSIS OF MONTHLY CASH NEEDS

School District \_\_\_\_\_

Items	January 19 -		February 19 -		Remarks
	A	B	A	B	
Cash on hand beginning of month					
Income during month					
Expenditures for month					
Balance					
Loans required					

A Estimated. B Actual.

## SCHOOL BOARD JOURNAL

### Form 1 MONTHLY STATEMENT OF INCOME

School District \_\_\_\_\_

School year 19 - , 19 -

Item	January		November		December	
	A	B	A	B	A	B
Taxes						
State Aid						
Tuition						
Other Sources						
<b>Total</b>						

A Estimated.

B Actual.

c Monthly designation depends on local fiscal year.

d Items depend on local sources.

ment of any member of the school board or their responsible officials.

3. Temporary loans should be accounted for in as careful a manner as all other financial matters.

4. Cost of borrowed money should be known and economically justified, and made public.

5. If the public is responsible (due to delayed tax payments) for the borrowing, the cost of this procedure should be given publicity and constructive, corrective measures suggested and carried out.

6. Every dollar unnecessarily expended for purposes other than direct educational service is a waste and should be avoided.

7. Temporary borrowing may at times be the most economical procedure of financing. It should be necessary to resort to it only when the case can be economically justified or in unavoidable emergencies.

8. Temporary loans should not be renewed.

9. Bonds should never be issued to redeem temporary debt.

### Form 2 MONTHLY STATEMENT OF CURRENT EXPENDITURES

School District \_\_\_\_\_

School Year 19 - , 19 -

Item	January		February		November		December	
	A	B	A	B	A	B	A	B
Salaries and Wages								
Supplies								
Text Books								
Sinking Fund								
Loan and Interest								
Fixed Charges								
Other Expenditures								
<b>Total</b>								

A Estimated.

B Actual.

c Monthly designation depends on local fiscal year.

d Items depend on local accounting requirements.

10. Temporary loans should be paid each year.

11. Temporary loans should be a minimum consistent with good management and maximum economy.

12. Financial statements should show clearly temporary loans and their cost.

13. Adequate monthly and yearly records of income and expenditures should be kept in order that trends and estimates can be more accurately determined.

14. Budgets should provide for a minimum necessary cash balance to be carried to reduce borrowing to a minimum.

15. Excessive balances are as costly as too frequent borrowing. Only through accurate accounting can the proper balance be determined.

16. The borrowing program should be planned and estimated in advance.

#### Suggested Forms for the Control of Income.

In order to properly control the income of a school system, the following reports and statements should be available for the school board and the school executive.

Form I is suggested as a means of getting a record of monthly income. In this report, the estimates as well as the actual incomes should be recorded. The items to be recorded should depend primarily on the local sources of income. The items to be listed on Form II are to be determined by local accounting needs, and local classification of accounts. A recapitulated total of local salary needs will be very convenient in planning for the monthly pay roll. The data recorded on Form III should be recapitulated and made available for yearly analysis and in the planning of the budget. A complete analysis of temporary loan needs can be made by keeping the records of these loans in such a manner as is suggested in Form IV. The borrowing program may be planned and controlled intelligently by such a procedure.

#### COMPETITIVE SCHOOL BOND SALES

The placing of school bonds on the market in such a manner as to bring the highest possible price involves a definite procedure. It has been found that the local bidder is not always able to offer the best figures. He has the advantage over the large bond dealer who may not be able to send his representatives when the sales are consummated.

Thus, it had happened that a local buyer who happened to be on the ground when the sale was effected secured the bonds at a figure lower than the large bond buyer would have paid. Those located in the financial centers of the country can readily buy any desirable bond issue because they have large clients who absorb them.

The school district of St. Joseph, Mo., mindful of the wide differences likely to arise between bond buyers, invited sealed mail bids from all the leading bond houses as well as from local bidders. The secretary, Mr. A. L. Loving, prepared a prospectus which provided every fact to be known in connection with a proposed \$300,000 school bond issue.

It quoted the law upon which the authority to issue bonds was based, and gave the necessary

(Concluded on Page 157)

### Form 4

#### ANALYSIS OF BORROWING PROGRAM

School District \_\_\_\_\_

School Year 19 - and 19 -

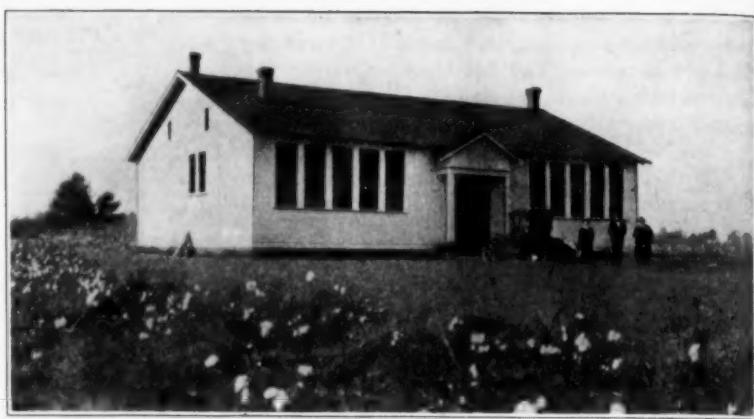
Item	January		February		November		December		Remarks
	A	B	A	B	A	B	A	B	
Loans outstanding at beginning of month									
Interest due									
Payments to be made									
Additional Loans									

A Estimated.

B Actual.



OGDEN SCHOOL, LITTLE RIVER COUNTY, ARK. TWO TEACHER SCHOOL ON PLAN NO. 2-C, HAVING TWO CLASSROOMS, INDUSTRIAL ROOM AND TWO CLOAK ROOMS. (TWO ACRE SITE.)



LAWRENCE SCHOOL, EDGECOME COUNTY, N. CAR. THREE TEACHER SCHOOL ON PLAN NO. 3. (TWO ACRE SITE.)

#### WHAT THE ROSENWALD FUND HAS ACCOMPLISHED

The Julius Rosenwald fund, established by the Chicago philanthropist in 1917, extends aid to the negro schools of the southern states. A report recently made public has revealed some of the remarkable results achieved. Thus far, 2,831 schools have received aid covering some fourteen southern states, and it is interesting to note just how and where this aid was extended.

The conditions upon which the fund is distributed provides \$400 for a one-teacher school, \$700 for a two-teacher school, \$900 for a three-teacher school, \$1,100 for a four-teacher school, \$1,300 for a five teacher school, \$1,500 for a six-teacher school or larger, \$700 for a four-room teachers' home, \$900 for a five-room teachers' home or larger, and \$200 for the addition of a classroom to a Rosenwald school, provided such school has not already received the maximum aid.

The plan also provides that "It is a condition precedent to receiving the aid of the fund that the people of the several communities shall secure, from other sources: from public school funds, private contributions, etc., an amount equal to or greater than that provided by the fund. Labor, land, and material may be counted as cash at current market values. Money provided by the fund will be available only when the amount otherwise raised, with that to be given the fund, is sufficient to complete and equip the building, including modern desks and two sanitary privies."

The schools, too, must run for at least five months in the year and the plans must be approved by the general field agent of the fund before construction is begun.

From the following summary of the number of schools that have received aid and their location as to states, it will be noted that the Rosenwald fund has contributed over two million dollars since its establishment.

#### Percentage Analysis

Negroes	21.5
Whites	4.8
Public	55.7
J. R. Fund	18.0

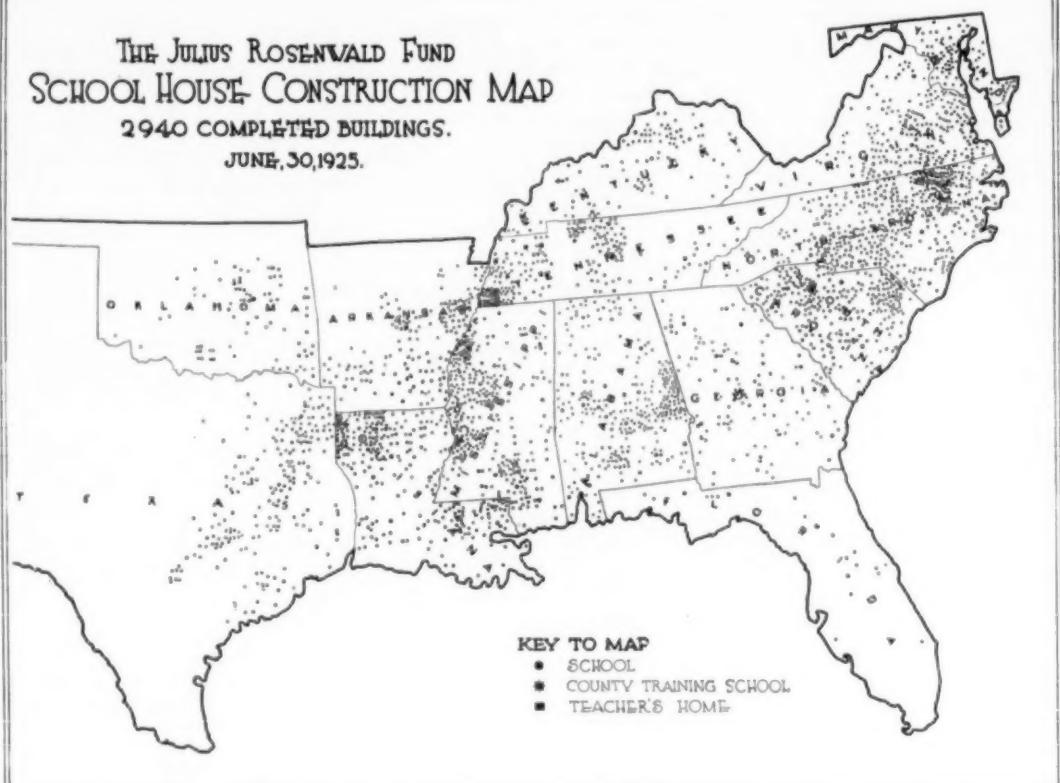
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For the year ended June 30, 1925, the Julius Rosenwald Fund aided in the construction of 487 schools and teachers' homes, located in Alabama (13), Arkansas (30), Florida (4), Georgia (14), Kentucky (7), Louisiana (30), Maryland (19), Mississippi (69), North Carolina (86), Oklahoma (21), South Carolina (79), Tennessee (26), Texas (55), and Virginia (35). The fund also aided in the addition of 53 classrooms to 33 Rosenwald schools previously built, making the total number of completed projects 520 for the year.

The buildings were distributed among the following types: One-teacher (74), two-teacher (186), three-teacher (76), four-teacher (73), five-teacher (17), six-teacher (23), larger than six-teacher (11), teachers' homes (27). The total teacher capacity is 1,352 and the pupil

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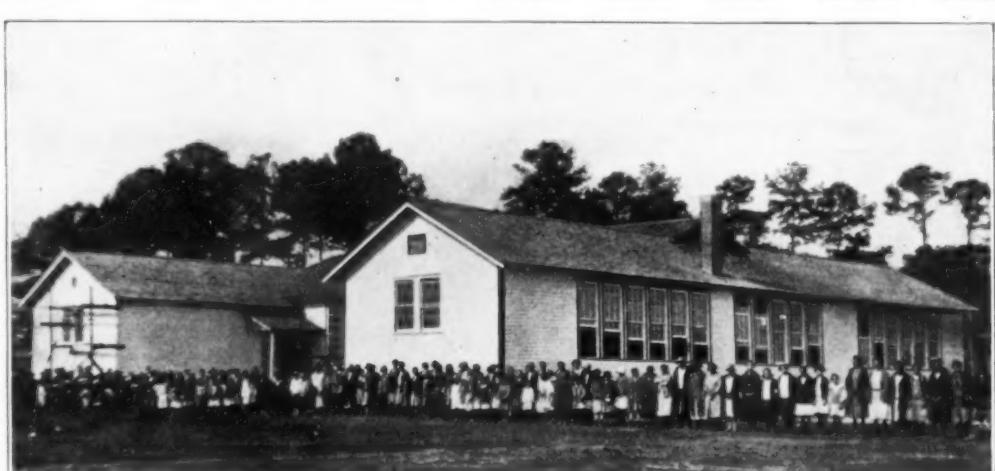
#### THE JULIUS ROSENWALD FUND SCHOOL HOUSE CONSTRUCTION MAP 2940 COMPLETED BUILDINGS. JUNE 30, 1925.



WHERE THE ROSENWALD SCHOOLS ARE LOCATED.

#### SUMMARY OF ALL COMPLETED BUILDINGS TO JUNE 30, 1925

State	No. Bldgs	Capacity	Total Cost	Contributions					
				Public School	Authorities	J. R. Fund			
Alabama	301	3	598	\$ 26,910	\$ 677,901	\$ 263,783	\$ 37,954	\$ 216,564	\$ 159,600
Arkansas	158	3	410	18,450	673,370	63,987	21,476	464,172	123,735
Florida	21	0	89	4,005	186,330	14,488	21,785	127,357	22,700
Georgia	120	8	358	16,110	451,485	130,140	22,118	197,177	102,050
Kentucky	98	2	205	9,225	427,790	51,616	9,175	305,068	61,940
Louisiana	251	16	670	30,150	912,850	269,215	32,184	407,651	203,800
Maryland	70	0	147	6,615	359,950	43,309	474	267,607	48,200
Mississippi	327	34	979	44,055	1,565,350	516,500	164,721	567,629	316,500
North Carolina	494	14	1,331	59,895	2,319,053	434,471	65,157	1,428,589	390,836
Oklahoma	69	11	145	6,525	360,712	17,230	600	285,602	57,280
South Carolina	260	3	877	39,465	1,612,116	294,383	158,695	911,138	247,900
Tennessee	222	3	578	26,010	1,064,628	193,930	20,627	684,371	165,700
Texas	204	10	461	20,745	772,980	117,855	28,445	462,838	163,842
Virginia	236	2	556	25,020	977,027	252,103	15,808	553,216	155,900
Totals	2,831	109	7,404	333,180	\$12,361,191	\$2,663,010	\$599,219	\$6,878,979	\$2,219,983



GREELYVILLE SCHOOL, WILLIAMSBURG COUNTY, SO. CAR. SIX-TEACHER SCHOOL ON COMMUNITY SCHOOL PLAN NO. 6-A, HAVING SIX CLASSROOMS, AUDITORIUM, OFFICE, LIBRARY, AND CLOAK ROOMS. (FIVE ACRE SITE.)

# A Difference of Viewpoint

Russell S. Peterson

Chatterton was proud of its high school athletics. Governor's day at the county fair did not find any more cars parked about the grandstand, than those which surrounded the Chatterton football field, two and three deep, of a Saturday afternoon in the fall. Throughout the winter, the story was the same. However blustery the night, every high school basketball game saw the school gymnasium packed from the floor to the topmost rafter. People who came after seven o'clock in the evening considered themselves lucky to find standing room, for often late comers were confronted by the cheerless legend, "Sold Out."

Week in and week out, the Chatterton public rallied to the support of the athletes wearing the colors of the Chatterton High School, and week in and week out, the Chatterton public reaped its reward in that joyous thrill of seeing the home team win. For win the Chatterton teams did with cheerful regularity. "V-i-c-t-o-r-y, v-i-c-t-o-r-y, Chatterton, Chatterton, Chatterton," was the favorite chant of the Chatterton rooting brigade, and they were not disappointed. Chatterton teams annexed championships beyond reckoning; opponents from far and near came, were seen, and were conquered. Pictures of Chatterton's coach and his pupils were blazoned on the sporting pages of the newspapers; column on column was devoted to the record of their exploits. The business men on Chatterton's Square remarked to one another, "Those athletes upon the hill are surely putting the old town on the map," and in their gratitude presented gold basketballs and silver loving-cups.

It really was not quite fair of the newspapers to give all the credit for Chatterton's victories to the players and coach, however. The teachers of the Chatterton high school were entitled to their share of the credit. Students who were below grade in their studies were not eligible to participate in athletics in the conference of which the Chatterton high school was a member. Chatterton teachers were very careful not to fail members of Chatterton's athletic teams; not first-string men at least. Of course, a second or third substitute was a different matter. There was a legend to the effect that once in the dim and hazy past, a teacher had been rash enough to fail a star guard, but that she had been asked to resign the following spring for failure to cooperate properly with the administration.

Chatterton's superintendent of schools believed in a very liberal interpretation of all eligibility rules. Strict interpretation and enforcement of all conference rules would have meant the elimination from the teams of boys who were needed to insure victory for Chatterton. If rules interfered with the winning of games, Chatterton's superintendent believed in forgetting about the rules. Of course, a bold bluff was made at living up to all conference requirements. Every fall the conference eligibility rules were read before the high school assembly, and the students were solemnly assured that these rules would be followed to the letter in the conduct of the school's athletics. A copy of the rules was also posted on the walls of the gymnasium locker room where visiting athletes could have an opportunity of reading them. Otherwise the rules were not allowed to impede the triumphant course of Chatterton high school athletics.

"The end justifies the means," was the fundamental philosophy on which Chatterton's very successful athletic coach built his system of instruction, the end in this case being the winning of games. The language heard on the foot-

ball field and basketball floor was not always what the boys would have wanted their mothers and fathers to hear, but the coach felt that the use of language which he considered virile was necessary to rid the boys of an idea that football or basketball was the same game as tiddie-de-winks. He was an adept, too, in schooling the boys in every piece of trickery known to the game. "Pull anything if you can get by," was his customary injunction on the eve of a game, and as a result, the general attitude of Chatterton teams was that anything was fair when the referee's back was turned.

In course of time, however, the superintendent had his teeth filled by the wrong dentist, bought his groceries from the wrong grocer, let his wife join the wrong club, or fired the wrong teacher. The evidence is not clear as to which proved fatal in his particular case, but at any rate, he found it advisable to find a new position. When he went, he took with him the athletic coach whose career at Chatterton, measured in terms of games won, was the impressive success we have endeavored to picture.

In the selection of his successor, the board decided that they must be very careful to get a man whose attitude toward athletics was a sympathetic one. Finally a candidate came along who expressed his creed as follows:

"Gentlemen, I believe in athletics thoroughly. A boy's emotional life needs training as much as his mental life if not more so. We have opportunities for such training on the athletic field that we cannot find in the classroom. We need the football field and basketball floor to contribute a share in the development of self-control, self-reliance, leadership, and resourcefulness."

This sounded so much like the speeches the old superintendent used to make before the Rotary, Kiwanis, and Mothers' clubs that the board felt he must be perfectly safe and he got the job.

Then they authorized the new superintendent to engage the very best athletic coach he could find. Chatterton's athletics must be maintained on their high level of achievement. The new superintendent hunted far and wide until he finally found a man who he thought fit the specifications. The superintendent knew that the man fit his own idea of the specifications at least, and he had not comprehended as yet that his idea of the specifications for a good athletic coach might possibly be different from that entertained by the good people of Chatterton.

Thus it happened that school opened the next fall with a new man at the head of the school system and a new man in charge of high school

athletics. The first week of school did not see any evident change in policy from that of the old administration. The conference rules were read before the high school assembly as usual, and the students were warned that those who did not meet the standards of eligibility outlined in the rules would be barred from participation in athletics. The old administration had always broadcasted a similar warning so potential transgressors saw no particular cause for worry.

The football season had not advanced very far, however, before some of the more intelligent boys on the football squad began to tumble to the fact that things were not going to be as they had been. Where the old regime had talked about rules, the new authorities showed intentions of putting them into practice.

It became early evident, too, that the new coach did not believe in profanity either as evidence of manliness or as an inspiration for the winning of games. One night at practice one of the boys fumbled a punt, and tried to relieve his emotions by cursing. The coach immediately called the squad together, and warned them that anyone using improper language in the future would draw a two-week suspension. A few afternoons later, the team's fleetest back, believing himself indispensable to the winning of the next Saturday's game and therefore privileged, spat out a series of oaths when a teammate ran into him as a result of a misunderstood signal.

"Bill, I am sorry, but you're suspended from the squad for the next two weeks." The coach's reaction was quiet, but immediate. Bill gasped, and so did the rest of the squad. Did rules apply to backfield stars as well as to the lowly scrubs?

Bill gasped again on the following Saturday when the team managed to win without him. The new coach seemed to know football, and he also seemed to have a happy knack of imparting his knowledge to the boys. Neither was any boy who had ever been tackled by him in practice willing to accuse him of being a molly-coddle. Some of the older boys who had been most intimate with the old coach sneered at times behind the new man's back at the new order of things, but he won the respect of the great majority of the boys in a short time.

Boys will follow unwholesome leadership if none other is offered them, but for all their assumed cynicism they are idealists at heart. Therefore it did not take most of the Chatterton boys long to catch the new coach's vision of sport for sport's sake instead of the old view of sport for the sake of victory and big gate receipts.

Old habits cannot be discarded as easily as can an old coat or an outworn vest, so occasionally the boys forgot themselves even late in the season. In one game a Chatterton guard lost his temper, and struck at an opponent. The referee did not see it, but the coach did, and the guard was replaced by a substitute. Another boy drew the coach's ire at the end of a game for jumping on an opponent when he was safely down in the grip of another Chatterton man. Still taking it all in all, the Chatterton team had changed marvelously, and opponents wondered at the transformation.

Around the Square there was considerable muttered criticism of the new coach's policy of keeping good players on the sides lines for mere infractions of rules which some of the business men considered petty, but since the team continued to win games people were satisfied. Remember that victory was the criterion



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of good coaching at Chatterton, and the new coach's teams were meeting the test.

The basketball season, too, opened auspiciously enough. The team won its first three games; the "Sold Out" sign was in evidence at every game, and everyone was happy. Then came the slump. The team lost its next two games to teams that had not beaten Chatterton for years. In the past there had been a sure refuge in such a crisis. Chatterton always had plenty of good basketball players of somewhere near high school age who were not in school because they were a trifle too lazy to spend the entire year in school. In the days gone by, whenever the team needed strengthening, these boys would be induced to enroll in school for a while. Conference rules required a student to have been doing good work in his classes for three weeks before he was eligible to play, but there were always ways of evading this.

One night at the barber shop, a bunch of the fellows around town asked the coach why he did not get a couple of the boys, who had nothing in particular to do but hang around the pool hall, to come back to school where they could help out with the basketball. They were far better than any of the boys that were on the team, and with them the team would be pretty sure to win the remainder of its games.

The coach explained that, while he would be glad to see the boys back in school and would be glad to help them get a start if they really wanted to get something out of their work at school, he could not use them on the team until they had been in school three weeks. And then only on the condition that they had been doing creditable work in the classroom.

The spokesman for the group objected to this, however. He grumbled: "They don't have to wait that long, do they? If the boys have to fool around at school for three weeks before they have a chance to get into a game, they are going to get so disgusted that they will quit before they ever start. The superintendent we used to have always fixed things up so the boys could play as soon as they started school, and I am sure that our superintendent this year will be glad to do the same thing if you will explain to him that it means our high school's maintaining its reputation."

"I know that he won't," replied the coach, "and I know furthermore that I am not going to ask him to do anything of the kind. I can't see where it would be any credit to our school or do our school any good to put our regular high school boys off the team, and have some outsiders come in and play for them. What possible training can our boys get out of that sort of thing? We might just as reasonably import older and more mature people in town into our classrooms to do their studying and reciting for them. Some of them undoubtedly could do it better than most of our students."

They could not follow him; he was talking a language they could not understand. They were measuring athletics in terms of games won; he in terms of square dealing and genuine sportsmanship.

So it happened that more games were lost. Then finally the retreat was transformed into a debacle when the best forward on the team fell below grade just before the final game with Bloozeburg in spite of the earnest efforts of the coach and other boys to help him keep up. Bloozeburg gave Chatterton the worst beating it had received in years.

March came, and with it the election of teachers for the coming year. One afternoon, a couple of days before the board met for that purpose, a clothing man who had been a loyal supporter of the team even when it was losing, called the superintendent into his store.

"Prof," he asked, "is our athletic coach coming back here another year?"

"I hope so," replied the superintendent; "he exerts the finest kind of influence on the boys of our high school."

"Yeh, maybe so," answered the business man, "but he certainly is a clunker when it comes to coaching basketball."

The superintendent left, assuring him that, while he appreciated his interest in the school, he would be forced to urge the board to retain the coach.

The night the board met to elect teachers, a delegation of men called on them. The sporting element in town was represented, but there were also several substantial business men in the group. The spokesman when given the floor, cleared his throat and relieved himself of his message. His remarks were somewhat to this effect:

"I guess it is unnecessary to tell you members of the board that we business men have the interests of the Chatterton high school very much at heart. We have always had plenty of school spirit. We have always bought tickets to the schools' athletic affairs. We have been liberal in buying advertising space in the school publications. We are coming before you tonight not because we want to interfere in the management of the school, but because we want you to know that we are anxious to have the school maintain the high reputation it has enjoyed throughout the state in the past. Our present coach has shown that he has not the ability to do this, and for this reason we ask that you make a change in the athletic position in our school."

As soon as he had concluded the superintendent asked to be given the floor. He tried to be conciliatory but firm.

"I am sure," he said, "that we all are very glad that these men have taken interest enough in our school to come before us this evening with this suggestion. Like them, I am very anxious that the Chatterton athletic teams should win as many games as possible. But the primary purpose of maintaining athletics in our school is not the winning of games, although I feel that in the long run we should win our share of them. In my opinion the real test of the usefulness of a coach is his success in developing the boys we place in his charge. Judged by this standard, I believe that our coach has been eminently successful."

Somebody on the visiting delegation muttered something that sounded suspiciously much like, "Apple sauce."

One of the board members then got up, and made a motion that the coach be re-engaged for the coming year at an increase in salary of two hundred dollars. In support of his motion, he said that he was not sure that he knew how much the coach knew about football and basketball, but he did know that the coach knew boys, and that he had exerted a marvelously fine influence on the board member's own boy. The motion was seconded and passed unanimously.

So end this chapter, but next year—ah that's another story. There will be a school election this summer, and there may be some new faces about the board table next time the Chatterton school board elects an athletic coach.

## The Purchase of School Sites

V. J. Gregory

Hand-to-mouth buying and selling is regarded as one of the most extravagant methods of conducting business. It is the recourse of shoe-string peddlers and of municipalities. The rise of taxes and the mounting of bonded indebtedness may be attributed in part, at least, to this kind of government. Farsighted policies of public improvement, requiring prudent financial management, usually repose in dusty drawers until brought to light by the pressure of exigent circumstances. Reference is had to real estate negotiations and more particularly to the acquisition of public school sites.

The story of how the city of Minneapolis finally advanced beyond this stage of penny-ante dealing and permitted the school board to promulgate a financial plan for the purchase of school sites adequate for a number of years constitutes a progressive note in its government.

At this point it is well to explain that the Minneapolis school board is checked on its expenditures by the city council and by the board of estimate and taxation. All financial programs of the school board must receive the approval of these two bodies before they can be placed into effect.

In the field of school construction, the main endeavor of the school board and of its administrative officers is aimed at educational economy and efficiency. Selection of a site for a school is always preceded by a consideration of the future needs of the affected community. Trends of population and character of district, whether residential or industrial, are always considered as essential factors in the selection of school sites. The entire city has been mapped out into districts, showing the actual state of population, past movements and future trends. Such a survey has made it possible to map out a building program for several years in advance, showing definitely the location of each school.

A private corporation, having laid out an accurate plan of the scope of its operations over a period of five years, would immediately act in acquiring the necessary real estate. It would proceed with negotiations for the purchase of the required land at a time when it could be obtained at an advantageous price. The school board, of course, has recognized the advantage of buying sites for the future, but with its hands tied, it has been powerless to act. Some officials regarded the expenditure of money for something that would not be used immediately a questionable practice.

Finally, at a meeting of the tax board, when the school building program was undergoing the scrutiny of various municipal officials, consideration was given to the thought of economy. The tax board members discussed the feasibility of adopting a long-sighted policy of economy in the matter of acquiring public school sites. Mayor George E. Leach, prompted by the arguments of Superintendent W. F. Webster and Mr. George F. Womrath, business superintendent, expressed the opinion that thousands of dollars could be saved to the taxpayers if the school board was permitted to buy at once all the sites needed for school buildings, instead of stretching the purchases over a number of years.

Mr. Webster, in urging the members of the tax board to give serious consideration to the proposition of buying future building sites stressed the factor of economy and pointed out that it would be the part of wisdom to buy unimproved land in rapidly growing sections of the city within the next year or two rather than wait and be obliged to pay two and three prices for the same real estate when actually needed. During the past few years the board had been obliged to pay exorbitant prices for sites on account of the rapid advance of land values in growing communities.

(Continued on Page 135)

# Public Debt for Education in Oregon

Homer P. Rainey, Ph. D., University of Oregon

The most conspicuous problem in the field of public finance is that of financing public education. Recent reports show that from ten to, as much as, twenty-five per cent in some cities of the entire cost of government is caused by education. These estimates are for the larger cities. The per cent is higher in the smaller cities which, in some cases is almost fifty per cent of the public revenues. Of all the elements of financing public education that of indebtedness is becoming one of the most acute.

This problem has become so acute that bonds have been defaulted in states, counties, and municipalities. Nine states have records of entire repudiation or of heavy scaling of their bonds. Hundreds and hundreds of districts and municipalities now are bonded to their constitutional and statutory limits, and at the same time are at the limit now permitted by state laws controlling the levying of taxes. The maintenance of schools even at their present level is very difficult, and all the time there is a constant urge for enlargements and improvements. The following quotation taken from the "Morning Oregonian," of Portland, Oregon, on February 27, 1925, is illustrative of the condition in many other districts in the State of Oregon: "The school board of La Grande is confronted with a problem that offers no solution, according to H. E. Williams, clerk of the board, and official of the La Grande Electric Company. 'Last year we constructed a four-room building and added three rooms to another building, but the increase in school population has been so great that six more rooms, at least, are needed. However, we have reached the limit of our bonding ability for new school buildings and what we are going to do with the additional children is a subject that is keeping us up nights. In the last few years our assessed valuation has increased 25 per cent and our school population 70 per cent. In 1916 the school population was 1600, now it is 2400.'"

The debt for education is in two forms, bonded indebtedness which is usually incurred for capital outlay, and floating indebtedness, which is in the nature of short time loans and is incurred for operating expenditures. This report deals with both forms of indebtedness for the state of Oregon.

Bonding for capital outlay in public education has become a common practice. The practice has grown enormously in the last decade. The unparalleled expansion of public education has made bonding a practical necessity. The unforeseen rapid increase in enrollment, especially in the secondary schools, has demanded emergency measures to meet the pressing needs of more and better housing facilities.

A few examples of this large expansion and increase in enrollment will suffice to illustrate the point.

According to statistics published by the U. S. Bureau of Education the enrollment in the public schools has increased from fifteen and one-half million in 1900 to over twenty-three million in 1922. The increase in high school enrollment during this same period was over 500 per cent—from 519,251 in 1900 to 2,873,009 in 1922. The school enrollment for Oregon almost doubled in the years 1900 to 1922. The increase was from 89,405 in 1900 to 164,460 in 1922. The increase has been even greater for Oregon's two neighboring states, Washington and California. The enrollment in Washington has increased from 115,104 in 1900 to 306,800 in 1922. The increase in California was from 269,936 to 888,723.

These increases are reflected in the increase in the cost of public education, which in the United States, rose from five hundred million dollars in 1910 to seven hundred million dollars in 1915 and to one billion dollars in 1920. The percentage of increase during the ten-year period was 145. This, of course, does not take into account the changing value of the dollar. At any rate, however, the increase has been very great.

The fact that this rapid increase has not been met is reflected in the increasing school debt. Educational expenditures for the county as a whole each year exceed the educational revenues, thus leaving a deficit which was three per cent of the revenues of 1910 and five per cent in 1920. This annual deficit results in a small but steady increase in the educational debt. This deficit has increased from \$14,490,115 in 1910 to \$57,695,541 in 1920. This increase in the state of Oregon has been from \$4,384,399 in 1912, to \$12,308,968 in 1924, or an increase of 283 per cent in this twelve year period.

A study made in 1923, of the bonded indebtedness for the state of Illinois shows that the indebtedness in that state has increased almost twenty-nine millions of dollars since 1910. A similar study of Iowa shows an increase in bonded indebtedness of nearly forty-two millions of dollars in the eleven year period 1911 to 1922. In Iowa there is a bonded indebtedness of more than \$100 per pupil in average daily attendance. The median consolidated school has more than \$250; and certain extreme cases have more than \$2,000 of bonded debt per pupil in average daily attendance. The bonded indebtedness per pupil in average daily attendance for Oregon in 1923 was \$70.63. In some counties it was over two hundred dollars per pupil.

There are many implications for the support of public education, growing out of this advancing school debt. It is a problem that every taxing unit must deal with in a scientific way. Each unit should know what it owes for the support and maintenance of public education, what is the present cost for operating its schools, and what are its resources to meet these needs.

What does Oregon owe for public education? How is this debt distributed over the taxing units? What are its resources for the support of education? What is the ratio of its debts and commitments to its ability to pay? What is the tendency relative to the increasing debt for schools? What is the present debt costing the State of Oregon, and what is the outlook for the future? The answer to these questions is fundamental to efficient financial administration of education in the state.

It is, therefore, the purpose of this study to make a careful analysis of the situation in Oregon and to discuss the implications involved.

The data for the study were furnished by the State Department of Education and were taken from the annual reports of the various county superintendents of the state. A part of the data was not available in the state office. But Mr. W. M. Smith, assistant state superintendent, generously secured them from the county superintendents on a blank furnished by the writer.

The study includes a historical review of the situation since 1912, and a more detailed analysis of the conditions in 1924. The study does not go back of 1912 because complete records are not available for the earlier years.

A knowledge of the financial condition of the state is fundamental to the forming of a policy for the support of education. It is essential that we know what our obligations are before we can plan adequately and effectively to meet them. The state's obligation for the support of public education involves two factors: (1) The liquidating of present debts, and (2) the raising of sufficient revenues for present and future support. Only the first factor is included in this study. The other factor is a knowledge of the state's financial condition, is a knowledge of the sources, possible amounts, and the means of raising the necessary school revenues.

## The Location of the Debt

What is the situation with respect to the school debt in Oregon? Table I presents the total indebtedness for school purposes by counties for the year ending July 1, 1924.

These figures alone have very little meaning. They have meaning only as they are related to

TABLE I  
The Indebtedness for Public Education and the Estimated Value of School Property in Oregon by Counties  
for the year ending July 1, 1924

County	Amount of Bonded Indebtedness	Warrants Outstanding	Other Indebtedness	Total	Estimate Value of School Property
Baker	\$ 261,812.00	\$ 15,125.18	\$ 1,125.85	\$ 278,063.03	\$ 575,835.00
Benton	171,081.82	85,526.29	2,029.51	258,574.62	327,945.00
Clackamas	319,200.00	104,257.73	1,362.73	424,820.46	1,056,595.00
Clatsop	332,250.00	53,122.26	27,690.66	413,062.92	965,892.87
Columbia	179,000.00	54,538.09	227.91	233,766.00	368,700.00
Coos	451,380.00	78,872.10	11,306.40	542,558.50	864,647.25
Crook	26,000.00	.....	.....	26,000.00	131,000.00
Curry	41,050.00	50,614.52	.....	91,664.52	75,000.00xx
Deschutes	242,800.00	44,576.31	71,088.00	358,464.71	439,069.62
Douglas	137,382.87	121,995.62	7,465.38	266,843.87	635,343.23
Gilliam	63,000.00	10,900.00	1,003.91	74,903.91	211,000.00
Grant	56,500.00	41,728.76	.....	98,228.76	117,289.00
Harney	67,066.60	25,764.50	940.24	93,771.34	90,829.33xx
Hood River	179,000.00	17,014.78	7,662.34	203,677.21	397,400.00
Jackson	259,400.00	45,774.28	5,208.90	310,383.64	839,087.60
Jefferson	65,400.00	18,528.61	385.00	84,313.61	80,981.25xx
Josephine	135,500.00	14,829.64	70.00	150,399.64	186,098.00
Klamath	254,304.00	6,620.18	59,380.00	320,304.18	479,000.00
Lake	124,000.00	2,684.40	.....	126,684.40	216,532.00
Lane	368,700.00	165,770.13	16,953.39	554,423.52	790,230.00
Lincoln	41,000.00	136,072.55	.....	177,672.55	160,614.00xx
Linn	179,800.00	83,709.80	8,401.75	290,001.55	643,125.00
Malheur	200,609.28	24,013.77	443.50	225,066.55	351,702.38
Marion	400,215.00	101,043.77	35,845.99	636,104.64	1,073,990.00
Morrow	222,400.00	57,680.22	350.00	280,438.22	265,991.90xx
Multnomah	2,880,743.00	85,579.52	5,500.00	2,971,822.52	14,553,705.82
Polk	117,266.00	68,045.85	28,408.00	213,719.85	388,175.00
Sherman	51,500.00	540.00	.....	52,040.00	194,400.00
Tillamook	295,950.00	54,961.39	17,502.35	368,413.74	469,850.00
Umatilla	657,600.00	125,192.20	125.00	782,917.20	1,380,930.00
Union	313,530.34	15,703.42	350.00	329,583.76	676,035.00
Wallowa	219,000.00	38,007.80	16,900.00	274,807.80	311,950.00
Wasco	304,000.00	17,977.00	6,760.20	328,313.79	478,500.00
Washington	220,000.00	32,207.91	8,757.93	260,956.84	590,504.00
Wheeler	78,623.80	1,672.00	.....	80,295.80	86,320.00
Yamhill	186,430.00	34,142.33	6,763.80	499,568.00	499,568.00

xx = Total indebtedness more than estimated value of school property.

## SCHOOL BOARD JOURNAL

TABLE II  
The Debt for Public Education in Oregon, by Counties  
on the Basis of Debt per Inhabitant and  
Debt per Pupil Enrolled, 1924

County	Debt per Pupil Enrolled	Rank	Debt per Inhabitant	Rank
Baker	\$ 55.42	26	\$15.50	24
Benton	53.33	27	18.81	20
Clackamas	56.44	25	11.27	32
Columbia	56.72	24	17.93	21
Clatsop	100.56	9	16.75	23
Coos	62.68	19	24.33	13
Curry	60.75	20	7.50	36
Crook	34.07	35	30.30	5
Deschutes	85.73	15	37.25	3
Douglas	58.73	22	12.50	30
Gilliam	200.00	2	18.91	19
Grant	60.72	21	17.87	22
Harney	65.58	18	23.49	15
Hood River	67.51	17	24.80	12
Jackson	50.62	29	15.21	26
Jefferson	226.50	1	26.25	11
Josephine	86.95	14	19.61	18
Klamath	92.77	11	28.06	10
Lake	147.80	5	31.74	4
Lane	58.09	23	15.33	25
Lincoln	26.29	36	29.20	7
Linn	35.32	34	11.81	31
Malheur	75.12	16	20.63	16
Marion	48.00	31	13.48	29
Morrow	184.13	3	49.92	1
Multnomah	51.32	28	10.77	34
Polk	48.97	30	15.07	27
Sherman	97.19	10	13.61	28
Tillamook	142.07	7	41.81	2
Umatilla	154.81	4	30.17	6
Union	91.50	12	19.80	17
Wallowa	89.90	13	28.10	9
Wasco	144.57	6	24.05	14
Washington	41.80	32	9.80	35
Wheeler	122.68	8	28.76	8
Yamhill	36.36	33	11.07	33

other facts. In order to study them comparatively, we need to study them in relation to other facts. Table II shows how this debt is distributed to each county on the basis of debt per inhabitant and debt per pupil enrolled.

The debt for each county is divided among the high school districts, elementary school districts, and joint elementary and high school districts. Oregon has a system of Union high school districts. These may cover part of the same or all of the same territory as an elementary school district, or several elementary districts. The legal bonding limit applies to each separately, that is, each type of district may incur an indebtedness equal to 5 per cent of its assessed valuation of property. This makes it possible for property to carry a debt for school purposes up to ten per cent of its assessed valuation. In addition to this, the same property can be carrying a debt for municipal and road indebtedness.

The location of the debt for each county with respect to the types of districts is seen from Table III.

County	Bonded Indebtedness Among High and Elementary School and Joint Districts		
	High School	Elementary School	Joint School Districts
Baker	\$133,000.00	\$ 32,500.00	Bonded Indebtedness
Benton	10,478.00	\$ 107,500.00	
Clackamas	132,000.00	61,500.00	189,750.00
Columbia	22,500.00	77,000.00	136,000.00
Coos	86,730.00	363,686.45	
Clatsop	36,000.00	81,750.00	246,000.00
Curry	.....	.....	.....
Crook	26,000.00	.....	.....
Deschutes	75,000.00	45,300.00	148,500.00
Douglas	46,000.00	27,000.00	119,300.00
Gilliam	.....	73,000.00	.....
Harney	.....	17,407.10	54,500.00
Grant	16,000.00	12,500.00	28,000.00
Hood River	8,000.00	53,000.00	118,000.00
Jackson	218,400.00	16,500.00	.....
Jefferson	50,000.00	2,000.00	14,400.00
Josephine	.....	6,000.00	132,500.00
Klamath	17,500.00	150,000.00	86,804.00
Lake	.....	11,500.00	123,000.00
Lane	3,000.00	2,900.00	366,735.00
Lincoln	56,000.00	.....	.....
Linn	.....	.....	12,810.00
Marion	122,000.00	.....	287,215.00
Malheur	.....	79,000.00	117,000.00
Morrow	241,700.00	17,200.00	.....
Multnomah	90,000.00	181,243.00	2,608,000.00
Polk	.....	8,766.00	178,500.00
Sherman	.....	5,000.00	46,500.00
Tillamook	.....	22,450.00	218,500.00
Umatilla	342,000.00	248,000.00	241,100.00
Union	.....	42,000.00	307,500.00
Wallowa	.....	4,200.00	215,000.00
Wasco	.....	3,500.00	388,000.00
Washington	37,900.00	71,600.00	104,000.00
Wheeler	30,500.00	54,584.00	.....
Yamhill	179,230.00	7,200.00	.....

What is the relation of each county's debt to its ability to pay when this ability is expressed in terms of wealth per child enrolled? This can also be seen from a study of Table IV. This relation can be measured by the methods of correlation. When this is done by the

square-of-the-difference-in-ranks-method the correlation is .39 P. E. .08. This correlation is negative and is large enough to be significant. This means that the debt of the counties is in inverse ratio, or tends to be, to their ability to pay. In other words, the wealthier counties per child enrolled have the least indebtedness. This situation results in gross inequalities in providing educational opportunities for children. It means that property in the poorer counties must bear a higher rate of taxation in order to provide education for their children than property in the wealthier counties. Those least able are forced to make the greater effort.

The ability of each county to finance education in terms of assessed valuation per child enrolled is shown in Table IV.

TABLE IV  
Enrollment for 1922-23 and Evaluation per Pupil  
Enrolled

County	Enrolled	Evaluation per Pupil	
		Total	Enrolled
Baker	3,568	\$ 5,676	17
Benton	3,468	3,429	33
Clackamas	8,697	2,848	36
Clatsop	4,373	8,633	9
Columbia	3,709	4,579	25
Coos	5,662	4,185	27
Crook	746	7,045	13
Curry	530	9,902	6
Deschutes	2,430	3,670	29
Douglas	4,851	5,367	19
Gilliam	847	13,212	4
Grant	1,251	6,553	14
Harney	658	13,588	2
Hood River	2,485	3,300	34
Jackson	5,281	4,634	23
Jefferson	578	9,405	7
Josephine	2,021	3,074	35
Klamath	2,288	9,315	8
Lake	870	13,574	3
Lane	9,119	3,532	32
Lincoln	1,724	6,203	15
Linn	5,797	4,432	26
Malheur	2,509	4,589	24
Marion	10,601	3,581	31
Morrow	1,404	7,628	11
Multnomah	51,689	5,574	18
Polk	3,457	3,606	30
Sherman	822	14,908	1
Tillamook	2,153	11,194	5
Umatilla	5,476	8,147	10
Union	4,105	4,923	21
Wallowa	2,125	5,876	16
Wasco	3,016	5,219	20
Washington	5,914	3,937	28
Wheeler	801	7,564	12
Yamhill	4,370	4,799	22

The range is very great. It is from \$14,906 per child in Sherman County to \$2,848 in Clackamas County. This is a ratio of 5.2 to 1.

These inequalities are very striking when individual counties are considered. Sherman county, for example, which is the richest county in the state on the basis of wealth per child enrolled ranks thirty-fifth, or next to the lowest, in the amount of bonded indebtedness. On the other hand, Clackamas county, which is the poorest county in the state per child enrolled, ranks sixth from the top in amount of bonded indebtedness. Lane county ranks thirty-fourth in wealth and fourth in indebtedness. Harney county ranks second in wealth and thirtieth in indebtedness.

When this relation is studied in terms of debt per inhabitant and wealth per child the correlation is .09 P. E. 10. This means there is no correlation between the county's debts and their ability to pay their debts.

It is interesting to see what tax rate each county would have to levy on all its taxable property in order to liquidate its debt, or what is the relation of each county's debt to the assessed valuation of its property. This is shown in Table V.

This rate ranges from 3 to 3-10 mills in Sherman county to 37 mills in Deschutes county. The correlation between the wealth per child enrolled and the tax rate needed to pay off each county's indebtedness is .40 P. E. 10. This correlation is also negative and significant. It means the same as the one above, namely, that ability to pay is in inverse ratio, or tends to be, to the debt to be paid off.

It means, further, that the debt in some counties is reaching a fairly large per cent of the assessed value of its property. How high

can this per cent go before the situation becomes dangerous? There is no definite answer to this question. There are many other factors to be considered, but the facts should be carefully studied.

TABLE V  
County Tax Rates Necessary to Pay Off 1923-24  
Indebtedness

County	Tax Rate	Rank
Sherman	.0033	36
Crook	.0048	35
Gilliam	.0049	34
Douglas	.0083	33
Multnomah	.0090	32
Linn	.0099	31
Harney	.0101	30
Baker	.0102	29
Lake	.0106	28
Washington	.0107	27
Jackson	.0108	26
Yamhill	.0109 (2)	24.5
Clatsop	.011 (2)	22.5
Columbia	.011 (2)	22.5
Grant	.012 (4)	19.5
Jefferson	.012 (4)	19.5
Tillamook	.012 (4)	19.5
Umatilla	.012 (4)	19.5
Union	.012 (4)	19.5
Wheeler	.013 (2)	16.5
Clackamas	.014 (3)	16.5
Lane	.014 (3)	14
Klamath	.014	14
Marion	.014	14
Wasco	.015 (4)	10.5
Malheur	.015	10.5
Lincoln	.015	10.5
Curry	.017	8
Josephine	.018	7
Hood River	.019 (2)	5.5
Benton	.0201	5.5
Wallowa	.0205	4
Morrow	.0205	3
Coos	.021	2
Deschutes	.037	1

These inequalities have resulted from our antiquated district system of control. The poorer districts and counties have had to put themselves in debt to provide the necessary education for their children, while the counties and districts more able to support education have had a comparatively easy burden. This process is still going on. Besides being farther in debt and less able to pay, these poorer counties are at present paying a much higher average tax rate than the richer counties and those less in debt.

The average tax rate paid in each county is seen from Table VI.

TABLE VI  
Average Tax Rate and Rank

County	Rank (Mills)	Rank
Baker	5.8	28
Benton	6.1	25
Clackamas	10.2	

# Ox Cart or Auto—Which?

## II. The Essentials of Air Circulation in Schoolrooms

E. V. Hill, Aerologist, Chicago

In the August number of the JOURNAL, we emphasized the fact that the thirty cubic feet of air per minute requirement for school ventilation was developed through long years of actual heating and ventilating experience, and is, therefore, not an arbitrary quantity based upon an arbitrary  $\text{CO}_2$  standard of air purity. It rests upon sound engineering principles and represents good engineering practice. It can be successfully defended, if it needs defense, from all thoughtless attacks.

While all the foregoing is unquestionably true, still it does not represent the entire story. Thirty cubic feet of air per pupil per minute as an engineering requirement is unquestionably sound, but thirty cubic feet of air per pupil per minute as a legal requirement is open to serious criticism. Well informed heating and ventilating engineers will cooperate to the fullest extent in the repeal of any state law or municipal ordinance that is based upon air quantity as a standard of ventilation, provided legal requirements based on air conditions are substituted. The reason is obvious to one who gives it serious consideration. School ventilation is a problem having two entirely dissimilar and distinct aspects. The one is physiological and the other mechanical. The first deals with conditions, the second with methods. The physiologist is properly concerned with air conditions that are to be maintained in a classroom, but he is not primarily interested in how these conditions are brought about and maintained. The engineer, on the other hand, may be interested in the air conditions that are to be maintained in a classroom; his primary interest is in the method, in how these results are to be brought about.

School ventilation laws are enacted for the purpose of protecting the health of the school children, and such laws should be constitutional, logical, and fair. Such laws, therefore, should specify what conditions as to temperature, humidity, air motion, air cleanliness, etc., are best suited for the health and comfort of the school children and should require that these conditions be maintained during the entire period the children are in the classroom. It is absolutely wrong for any law to specify *how* the desirable conditions are to be brought about and maintained, as such laws result in an undesirable uniformity in method, discourage ingenuity, and prevent the proper development of the science. They perpetuate the mistakes of the past, prevent present day progress, and mortgage the practice of the future.

The established practice of basing legal requirements on an air quantity basis, and the general inadequacy of existing ventilation laws, has long been recognized by the engineering fraternity. The work of Flügge, Flack, and Leonard Hill clarified our conception of the true meaning of ventilation and materially aided in placing the emphasis where it properly belongs, not on the quantity of air supplied, but on the control of the various factors that influence or determine the air conditions in a given room. Ventilating engineers early recognized the importance of these new conceptions as they very materially affected established practice. During the years 1914, 1915, and 1916 we find in the proceedings of the American Society of Heating and Ventilating Engineers that this subject was a frequent topic of discussion at the annual and semi-annual meetings, and it was at this time quite generally understood that control of the various factors of temperature, humidity, air motion, proper air cleaning, and

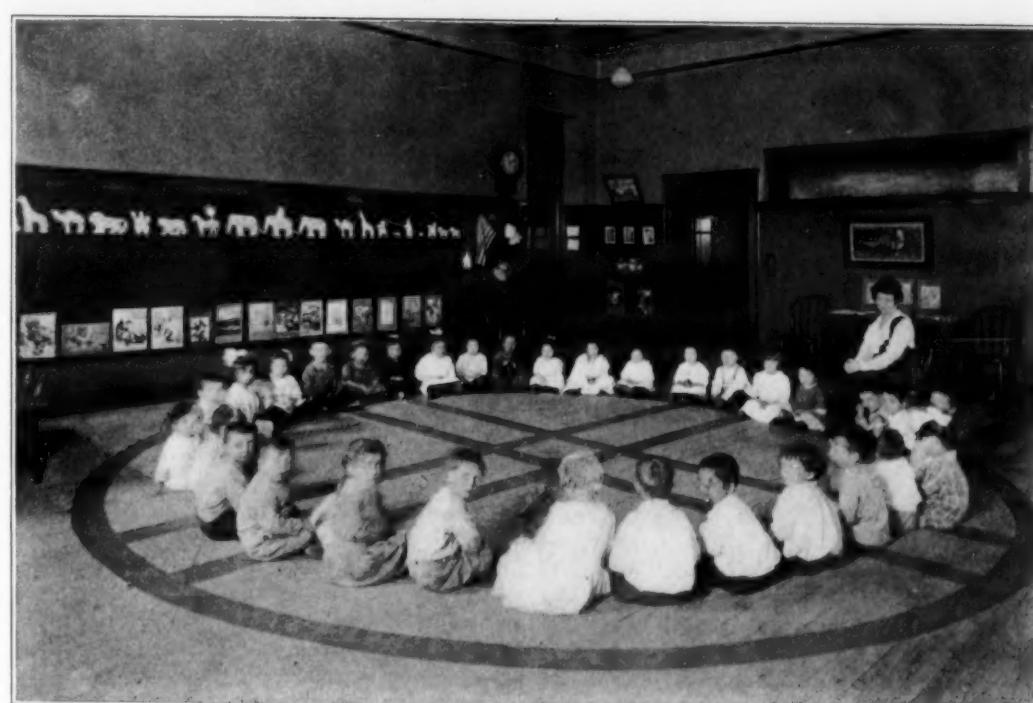


FIG. 1. WATCHING THE AIR TESTS, AND ALSO THE CAMERA.

distribution were the essentials of satisfactory installations rather than the introduction and distribution of a certain quantity of air to reduce the  $\text{CO}_2$  content or remove hypothetical organic poisons. At the January meeting of the Society in 1917 the writer presented the first draft of the synthetic air chart as a standard of ventilation. The chart was thoroughly discussed, modified, referred to a committee, discussed again at subsequent meetings, and finally adopted by the Society at the summer meeting in St. Louis in 1920. The synthetic air chart is a standard toward which we strive and also a measure of how far short we fall from our ideal. It ignores, absolutely, methods in ventilation practice, resting entirely upon the *conditions* that should be maintained.

The adoption of the synthetic air chart by the American Society of Heating and Ventilating Engineers as its standard in 1920 is a subject of more than passing interest. In taking this action, the Society went definitely on record as opposed to existing laws based on a quantity requirement and in favor of new laws based on conditions rather than on methods. In fairness to the Society, it should be clearly pointed out that this action was taken five years ago, after three years of deliberation. They clearly recognized the importance of the problem and gave it prompt attention, careful study, and offered a solution long before experimental physiologists and hygienists were collectively conscious that the problem existed. In

the Society's new code of "Minimum Requirements for the Heating and Ventilation of Buildings," the synthetic air chart forms the basis of Section 2, which deals with requirements for public buildings.

The code is now in the hands of the publishers and will be soon ready for distribution. The following specific requirements are copied from Part 2, Section 2:

"Specific Requirements Based on the Synthetic Air Chart:

Schools	%
Classrooms	92
Manual Training Rooms	90
Domestic Science Rooms	90
Amphitheatres	90
Corridors	85
Churches	85
Hospitals	85
Wards	90
Operating Rooms	95
Other Rooms	90
Theatres	
Auditorium	85
Dressing Rooms, etc.	85
Dance, Lodge and Assembly Halls	85
Office Buildings	
Offices in office buildings or other buildings where persons are continuously employed.	90
Department Stores	88
Other Stores	88

Factory Buildings: The percentage desirable for factory buildings will vary over a considerable range, depending upon the character of the work and of a process employed, modified to a considerable degree by the dust content of the air and the possibility of maintaining it free from objectionable dust and fumes. This will require a careful classification and considerable study.

21. The Synthetic Air Chart: The Synthetic Air Chart is designed as a means of measuring with a greater degree of accuracy than heretofore the air conditions maintained in any given room. Instead of speaking of the ventilation of a room as good, bad or indifferent, etc., the results of tests are plotted on the chart and the air conditions are recorded as percentage of perfect. This is done by considering all of the known factors that make up the air conditions. These factors with their proper weights, experimentally determined, are arranged in columns vertically across the chart as shown in Fig. 1. The base of each column represents the ideal condition, or 100 per cent perfect. Bordering on either side of the main columns are two narrow columns marked "+%" and "-%", the minus per cent denoting the penalization to be subtracted from the percentage of perfect column and the plus per cent denotes the condition considering only the one particular factor.

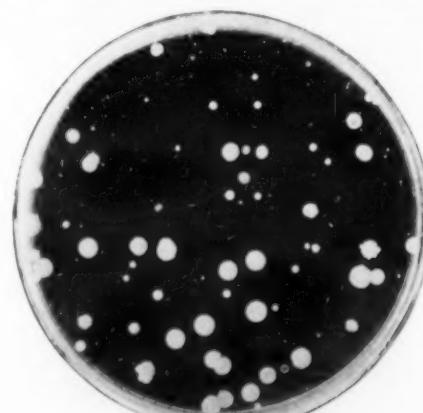


FIG. 2. BACTERIA CULTURE TAKEN IN DIRTY AIR.

These various factors are divided into three groups:

First: Wet bulb difference, which includes temperature humidity and air motion.

Second: Dust, bacteria and odors.

Third: Carbon dioxide which is considered in relation to the air supply.

The upper limit of any of these groups represents the condition where life would cease to exist, hence at this point the "—%" column would indicate 100 per cent penalization. (Since the upper ends of the columns represent conditions that are not found in practice, they are not included in the chart.) The lower limit of any of these groups represents ideal or perfect conditions, hence at this point the "—%" column is indicated by O."

The synthetic air chart is primarily a measure of ventilation. It is based on and incorporates all the known factors that determine air conditions in a room. It substitutes accuracy for guess work. It deals only with results, leaving the method to the inventiveness and ingenuity of the designer. A standard is set on a final percentage basis as high as we believe it is practical to go. The maintenance of this standard will depend on local conditions, locality and many other determining factors. If the standard can be maintained by the judicious use of open windows without the aid of fans, so much the better. If it requires exhaust fans, then exhaust fans should be installed. If it requires a complete system of mechanical ventilation, then a complete system of mechanical ventilation must be used.

In this connection, we cannot refrain from mentioning that heating and ventilating engineers have been charged by inference at least, with favoring and promoting the thirty cubic foot legal requirement on the assumption that it is to their interest to have the requirement as high as possible. The most convincing refutation of this charge is the action of the Society in adopting the synthetic air chart five years ago, which seeks to wipe out the thirty cubic foot legal requirement and which favors open windows, mechanical ventilation, or any method that will meet the high standard desired. However, I wish to emphatically state that the requirements in the various states and municipalities throughout the country based on the thirty cubic foot standard should not be repealed until new laws are enacted to replace those now in force, based on air conditions rather than on air quantity.

While clearly recognizing the defects of present laws, it is also clear that they are better than no laws at all. They have served a useful purpose in the past, and should not be repealed until new laws are enacted to replace them. The new bridge should be installed and ready for use before the old structure is torn down.

#### How Shall We Ventilate the Schools?

What is, then, the most satisfactory method of school ventilation from every viewpoint? This is a question of relatively minor importance, and, in fact, should not be answered until we have established the conditions we wish to maintain. We should first ask what air conditions should be maintained in a classroom before inquiring as to the method. In fact, if we establish definitely the air conditions that are to be maintained, either legally or by established practice, the answer of *how* will take care of itself. Let us, therefore, see if we cannot set a provisional standard that will meet with more or less general acceptance, bearing in mind while so doing, the seriousness of the problem and the responsibility it entails.

Children are in the classroom a considerable portion of the day, nine months in the year, and the present tendency is to increase this period. There is no good reason for the long interruption of school work during the summer months, according to many school authorities, and in all probabilities, an all-year program will be adopted in the not very distant future.

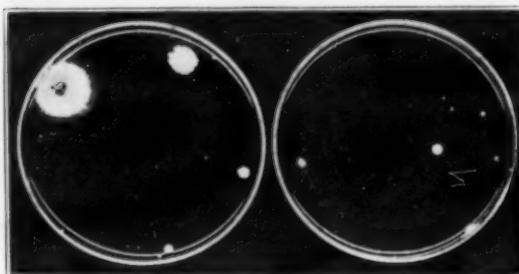


FIG. 3. BACTERIA CULTURES IN FAIRLY CLEAN AIR.

It only remains for us to provide not average or fair, but the very best possible conditions to protect the health of school children during the time of their enforced attendance in the schools.

We should, therefore, set a standard, a high standard, and maintain the same to the very best of our ability.

It is not difficult to set such a standard. There is nothing mysterious or obscure on the subject of ventilation. All the factors, we feel reasonably sure, are known and understood. It is only necessary to determine how far it is possible to go from a practical viewpoint in maintaining the best air conditions at all times for both teacher and pupils.

#### First—Temperature Conditions:

In the first article in this series, we called attention to the research work of the American Society of Heating and Ventilating Engineers and reproduced a curve showing the results of the experiments in establishing the relationship between temperature and humidity. This, we believe, to be a very important advance in the science of ventilation, and our first effort should be directed toward applying this valuable information in practice.

The first factor, therefore, in the standard which we propose is the maintenance of the temperature of the air in the classroom, and the humidity in accordance with the curve of comfort as established by the research laboratory. It is hard to see how anyone can object to this as an important part of our standard, unless he contends that the curve is incorrect. Objection might be made that an unvarying temperature and humidity is monotonous and lacks the stimulating qualities of a changing temperature. Possibly this is true, although there is not a sufficient amount of experimental data available at this time to definitely decide the point. If it should develop that variations are desirable, they can be easily provided for, temperature and humidity still being maintained in the comfort zone or even on the comfort line. Air motion, of course, will be maintained at the proper velocity to give proper bodily aeration but not sufficient to produce drafts.

#### Second—Air Dust:

No one contends, so far as I know, that air dust in the classroom is beneficial or desirable, and the nearer we can come to absolute cleanliness of the air, the better it will be for the health of the room occupants. Of course, there are practical difficulties that make it impossible

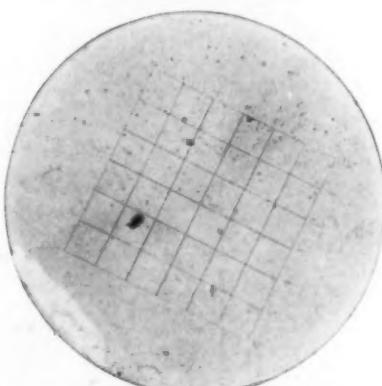


FIG. 4. DUST SAMPLE OF FAIRLY CLEAN AIR.

to secure the high degree of cleanliness that it is necessary to maintain in some industrial plants; for example, where photographic films are coated or where some food products are prepared. In commercial work, the engineer finds that it is possible to maintain an exceptionally high standard of air cleanliness, although the trouble and expense make this impractical in school ventilation work. We find, however, by the use of efficient air washers or filters, with oiled floors in the classrooms and with the proper standard of maintenance, a dust count of less than 10,000 particles per cubic foot can be maintained. This is based on counting dust samples collected on adhesive plate and viewed with a magnification of sixty diameters. Ten thousand particles per cubic foot on this basis is relatively clean air, much better than the average outdoor air in our cities.

#### Third—Bacteria:

The standard of a certain colony count of air bacteria as determined by exposing Aagar plates, is not of major importance. The bacteria content of the air so determined is not an index to the pathogenic or disease producing organisms that may be present. However, the common air bacteria cultured by this method are indicative of the character of the air dust and give some information of value. Furthermore, pus producing bacteria are air born, and their occurrence is of considerable importance. Common infections of the mucous membrane of the eyes, nose, and respiratory passages are usually traceable to this cause, and the prevalence of respiratory infections in the classroom bears a direct relationship to these organisms and incidentally to the dust content of the air.

In classrooms where the incoming air is properly cleaned, where the floors are oiled and a proper sanitary standard maintained, the colony counts on two minute Aagar plates can easily be maintained at an average of less than ten.

#### Fourth—Odors:

An exact standard of objectionable odors is very difficult. However, a reasonably definite rating for odors can be made by considering

Entire freedom from odors as.....	100%
Very faint .....	95%
Noticeable .....	90%
Distinct .....	85%
Decided .....	80%
Strong .....	75%

and by making odor determinations immediately upon entering the room in accordance with this scale.

In practice, we find that in a properly ventilated classroom occupied by students of average cleanliness, odor perception can always be maintained above 90 per cent and usually above 95 per cent.

The foregoing covers the essential points in a ventilation standard. We have not mentioned the quantity of air required, as this has to do with method rather than with conditions. Air is the means through which we maintain satisfactory air conditions and not the end or object to be attained. We have not mentioned a maximum  $\text{CO}_2$  content, as the carbon dioxide in the air is an indication of nothing, except air quantity and distribution. We find, however, by practical experience that it requires from 25 to 30 cubic feet of air per pupil per minute to maintain these conditions and that by introducing and equally distributing this amount of air, the carbon dioxide content will average approximately eight parts per 10,000 and the distribution of the entering air will be 95 or 96 per cent of perfect. The standard we suggest is set forth specifically so that there can be no mistake or question with regard to the various factors and each can be tested, analyzed or corrected if found deficient.

(Continued on Page 136)

# Beautifying School Yards

Cora Miley, Oklahoma City, Okla.

There seems to be, judging from existing conditions, a generally accepted notion that school yards must of necessity be ugly and bare, dusty or muddy, and always littered more or less with waste paper and debris.

We spend millions of dollars annually on beautiful school buildings and equip them with modern facilities, but pay little attention to school grounds. We beautify our homes and our public parks, but neglect our school grounds. And this neglect goes on in spite of the fact that we value beautiful surroundings as a factor in education.

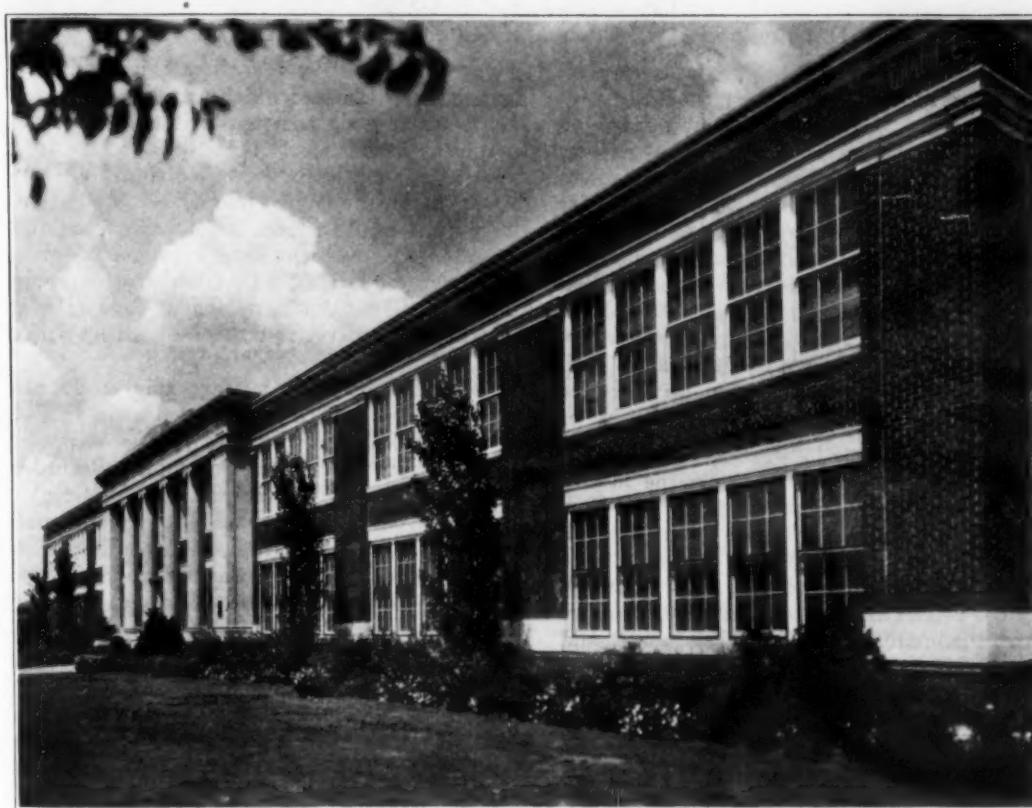
But, there are some cities that have awakened to the fact that beautiful school yards are an asset, not only to the children but to the community at large, and they are beginning to give the subject some attention.

The story of how Oklahoma City happened to take up the idea, the difficulties which were overcome and the accomplishment that was brought about may be of interest and help to those interested in beginning a plan.

Some five years ago the president of the Federated Patrons' Club of Oklahoma City spent a summer in Boulder, Colorado. While driving down its most beautiful street, she noticed an old ivy-covered castle set among beautiful trees and shrubs. Upon inquiry she learned that this was a ward school, just a common every day public school, where the principal and the children had for many years taken an interest in the grounds to the extent of planting every shrub and tree, and that not one penny had been spent by the school board on its development. She thought of the dust and weeds in the school yards at home and shuddered. So when she came home she determined to start something toward bettering conditions.

The prospects were not encouraging. Weeds were all over the grounds, waist high to the little children, sticky, burry weeds, wet with the early morning dew. Notwithstanding school had been in session two weeks, no effort was being made to put the yard in order. Aroused to action, she called on the supervisor of buildings and grounds. No action. Who ever heard of beautifying or cleaning up the school yards! She called the superintendent of schools. No action. It was out of his jurisdiction.

Not until she called on the president of the board and indignantly told him her grievance were those weeds cut and then left with a six-inch stubble. More determined now than ever



THE WEBSTER JUNIOR HIGH SCHOOL, OKLAHOMA CITY, OKLA., HAS SIMPLE PLANTING ALONG ITS ENTIRE FRONT TO SOFTEN THE LINES OF THE BUILDING.

to do something she called the presidents of the individual clubs together to lay her plans before them. Her enthusiasm was so contagious that they decided to undertake the plan of beautifying the school yards.

The October meeting following was set aside for the discussion of the plan. Landscape gardeners were invited to speak at that time on the possibilities and advantages of better looking grounds. These men responded very graciously, even making blue prints free for the different schools. Since so many of our schools are in the busiest districts, surrounded on all four sides by streets where the traffic thunders by, the mothers were anxious to have marginal planting which would mitigate the danger.

The board of education was somewhat harder to convince. The members had an idea that the places where children play could not be beautiful, that play grounds should always be bare

and that any planting done on the grounds would be robbing the children of their rights. They insisted that no beautification was possible without grass and that grass would not grow on a school yard. Besides, they said children were ruthless and destructive and would tear up whatever was planted. But, after some persuasion, they consented to foundational planting, and marginal, provided it was not too wide.

To make a long story short, the plan has been a success. The shrubs and flowering trees are lovely. There are spirea, golden elder sumak, pussy willow tamarack, Arbor Vitae, bush honeysuckle, lilac, and other decorative and hardy plants. At one school there is a beautiful border twenty feet wide next to the busiest boulevard in the city. On the edge of this bed the children plant zinnias, phlox, petunias, nasturtiums, and other gay annuals every spring. Grass is on all the parkings and in front of the buildings that are near the street. There are no weeds.

The grass was first planted near the end of May just as school was dismissed for the summer. It is never mowed after the first of August. The children are not forbidden to play on it and seemingly have done it no harm. In fact, the yards were planted for the use of the children. They pull the flowers if they wish and play among the shrubbery. The privilege has never been abused.

Webster junior high school has gone much farther than the other schools. Behind the beautiful new building there was an old ravine which had formerly been used as a dumping ground. The club conceived the idea of making an open air theater there. It was a tremendous undertaking. Drains had to be put in to carry off the water. It had to be graded and re-sodded. Columns for the theater had to be built and the whole place wired for lights. The cost was fifteen hundred dollars, the board paying half and the club half. A spring was in one corner of the ditch. Here David Payne, the pioneer of the West, used to camp. On account of the historic interest, the Daughters of the American Revolution put it in order and placed a marker there. The result has justified the expense and trouble. It is a place of beauty indeed. A

(Concluded on Page 132)



THE LINCOLN SCHOOL, OKLAHOMA CITY, OKLA., HAS SIMPLE SHRUBBERY TO ENHANCE ITS SEVERE LINES.

## The Mill Levy as a Measure of Comparative School Costs

E. D. Cline and C. L. Cushman, State University of Iowa

It is a mere matter of arithmetic to see that, when property in a community is assessed at less than its actual value, the assessment on property as expressed in terms of the tax levy in mills does not represent a true statement of the tax burden. For example, in a certain city in Iowa the assessed value<sup>1</sup> of the real personal property is \$1,263,000. In this city property is assessed at one-half of its true value so that the true value of property is \$2,526,000. If in this community the school is to receive \$40,000 from taxation, a mill levy of 31.67 mills<sup>2</sup> will be required. The actual burden on the true value of property in this community is, of course, only one-half of this, or 15.84 mills.

It is also easy to see that, where the rate of assessment in a single community changes from year to year, increases or decreases in the mill levy do not offer a true measure of the increase or decrease of the tax burden. For example, using the same case as above, if the true value of property in this town in another year should still be \$2,526,000 and the school should again ask for \$40,000, but the rate at which property is assessed should drop from 50 per cent to 40 per cent, it is a mere matter of proportion to show that the mill levy will need to be increased from 31.67 mills to 39.59 mills. At the same time it is perfectly clear that this in no way is an actual increase in the tax burden.

In short, any change in the rate at which property is assessed must result in a proportional change in the opposite direction for the mill levy.

Among those who have kept themselves informed as to the tendencies in assessing property, it is a well-known fact that during the past fifteen or twenty years there has been a rather marked reduction in the per cent of the true value at which property has been assessed. W. F. Russell in "School Finance in Iowa Cities" shows that property throughout the state of Iowa was assessed at 80 per cent of its true value in 1903 and 40 per cent in 1919.<sup>3</sup>

<sup>1</sup>Assessed value of property in Iowa means the full value as appraised by the assessor. Taxable value is one-fourth of the assessed value and is the figure used in computing the tax rate. "True value" as used in this article is a value which is approximately the market or sale value of property.

<sup>2</sup>Since the practice in Iowa is to tax on only one-fourth the assessed value the actual levy as shown on the tax receipt would be 126.68 mills.

<sup>3</sup>University of Iowa Extension Bulletin No. 60: August 1, 1920.

Where such conditions as these exist, it is evident that any increase which may have occurred in the tax levy do not represent true increases in the tax burden.

In connection with the school building survey of an Iowa city of some 50,000 population, the writers made a rather intensive study of the rate of assessment over a period of more than twenty years. The results of this study furnish a splendid illustration of how false a measure of comparative costs, the mill levy may be.

The forms used in making this study are shown here. Form 1 was used as a field sheet for the collection of data. The first step was to obtain from the office of the County Recorder for each year studied, a random sampling of about one hundred pieces of property that had changed hands during the year, together with the transfer value. Later the assessed value for each of these was found in the records of the County Assessor.

Form 2 was used as a transfer sheet. On this sheet the per cent (ratio) which the sale value is of the assessed, was computed. The median per cent for any given year was considered as the ratio of assessed value to true value for that year. The odd years from 1901 to 1923 and the year 1924 were used. Property is assessed in Iowa in odd numbered years.

The following table gives the results of this study. Included in the table are the millage as actually levied and the same millage corrected for the ratio of assessed value to sale value of property. This gives a millage which more nearly represents the part of the taxable wealth taken for education and gives a more sound basis from which comparisons could be made.

Year	I		II		III		IV		
	No. of Pieces of Property	Actual Mill Levy	L C O L K	B Ass'd Val.	Tfr. Val.	Yr. Ard	Dist. or Div'n	Assessment Ratio	Corrected Mill Levy
1924	100	60.4		45.7	27.6				
1923	99	61.1		47.9	29.3				
1921	114	63.9		47.5	30.4				
1919	115	59.2		50.2	29.7				
1917	84	30.4		52.5	16.0				
1915	91	27.4		59.1	16.2				
1913	83	27.0		70.3	19.0				
1911	95	21.2		68.3	14.5				
1909	92	20.1		71.7	14.4				
1907	90	18.2		74.3	13.5				
1905	93	18.8		70.6	13.3				
1903	102	19.4		77.2	15.0				
1901	85	17.0		77.5	13.2				

Column I in the above table shows the number of pieces of property which were found for each year. The fact that the number is not uniform throughout, is due to the many transfers which could not be satisfactorily located in the books of the assessor and had to be discarded. The only significance of this column is to show the adequacy of the data for the various years.

Column II shows the mill levy for school purposes as actually assessed. In other words, it is the levy as shown on the tax receipt.

Column III shows the rate of assessment for each year. Thus the assessment on a piece of property with a true value of \$1,000 in 1901 would have been \$775. In 1924 a piece of property with a true value of \$1,000 would have been assessed at \$457.

Column IV shows the actual burden on property for each year, or what the mill levy would have been if property had been assessed at its true value. The figures here are obtained by multiplying the ratio of assessed to transfer value by the actual mill levy. The equation for this for a given year such as 1901 would be  $77.5 : 100 :: X : 17$ .

The following diagram shows in graphic form columns II and IV, the solid line representing the actual levy and the broken line the corrected levy or the levy on the true value of property.

An examination of these figures shows that there has been an apparent increase in the tax burden for school purposes of 255 per cent or that the mill levy has shifted from seventeen mills to 60.4 mills. These same figures corrected to show the actual burden on property, or to show what the mill levy would have been if property had been assessed throughout at its true value, show an increase of 109 per cent. This represents a change in the mill levy from 13.2 mills to 27.6 mills. These figures furnish us a true basis for comparing the tax burden from year to year.

—Mrs. Johanna Gregg, a member of the Chicago board of education, has announced her candidacy for the office of mayor on the Republican ticket.

—Secretary E. D. Purdy of the board of education at Waukon, Ia., has announced his retirement after completing 29 years of service.

—Mrs. Lottie K. Christy has been elected secretary of the board of education at Elizabeth, Pa., for a term of four years.

—At the annual school election at Escanaba, Mich., three of the old members, Attorney Baker, Dr. Banks, and Mr. Beggs were reelected. The position of Mr. Peterson, who refused another term, was filled by the election of Mr. Beck. The other members of the board are Dr. Walsh, Mr. Schemmel and Mr. Gunderson.

Form 1

PROPERTY VALUE: ASSESSED VS. TRANSFER S.U.I.

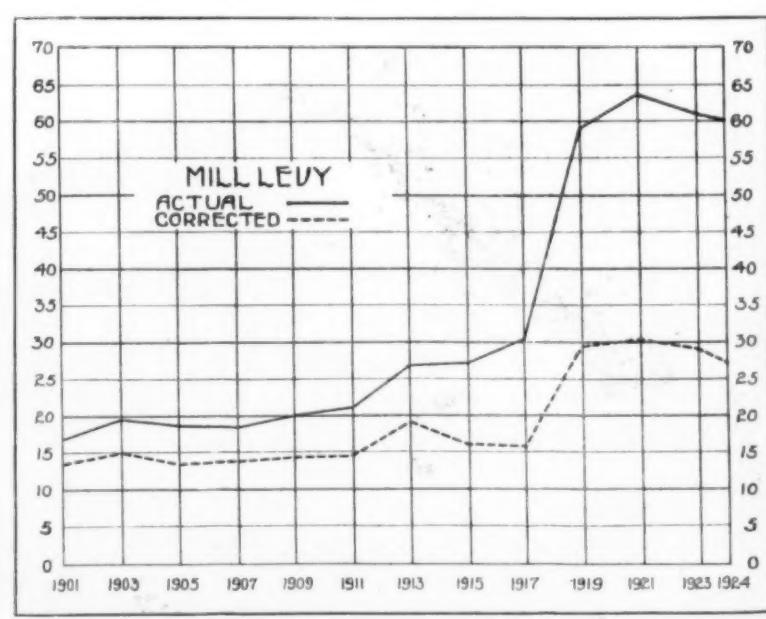
CITY.....			DATE COMPILED Nov. 1924 BY WHOM.....					
Trans. Date Mo.Yr.	Grantor	Grantee	Description	L C O L K	B Ass'd Val.	Tfr. Val.	Yr. Ard	Dist. or Div'n
Jan 1924	J. Smith	J. M. Morris	Morris and Smith	7 4	\$1,200	\$2,500	1924	-
Jan 1924	J. C. Norton	M. Black	Black and Norton	4 5	\$3,50	\$1,000	1924	-

Form 2

PROPERTY VALUE: ASSESSED VS. TRANSFER

CITY..... COUNTY.....  
YEAR ASSESSED..... YEAR TRANSFERRED.....  
AVERAGE % A/T.....

ITEM NO.	TRANSFER DATE MO. YR.	ASSESSED VALUE	TRANSFER DATE MO. YR.	% A/T	ITEM NO.	TRANSFER DATE MO. YR.	ASSESSED VALUE	TRANSFER DATE MO. YR.	% A/T
1	Jan 1923	\$1,200	12/50	48	51				
2	" 1923	\$1,200	12/50	52	53				
3					54				
4					55				
5					56				



COMPARISON OF MILL LEVIES FOR SCHOOL PURPOSES IN A TYPICAL IOWA SCHOOL DISTRICT, CORRECTED FOR UNDER-ASSESSMENT.

## The Work of the School Janitor

### IV. Dusting in School Buildings

Charles E. Reeves, Ph. D.

The work of dusting, especially the job of dusting classrooms and other rooms frequently used by pupils is, under usual conditions, extremely important. No one knows just what proportion of the spread of disease is due to classroom dust of the air or on furniture. We do know that classroom dust is filled with bacteria and that the greater the amount of dust, either in the air or on furniture, the greater will be the bacterial count.<sup>1</sup>

It is likely that many harmful bacteria, produced either by children who become sick in school, or carried to the school from homes or the street, may find a lodging place in classroom dust. Such dust, stirred up by movement of pupils about the room, is breathed into the body. Dust settling on desks is transferred by children's hands to the membranes of mouth, eyes, and nose. It seems important, therefore, that dust should, so far as possible, be eliminated from the school, and especially from classrooms where pupils spend the major portion of their school time. \*

Children are compelled by law to attend school. Usually they cannot choose the school they attend but must breathe the same air and utilize the same desks as other children from all sorts of environments. Under such conditions the school is in duty bound to minimize to the greatest possible extent the health hazards which arise from such compulsory association.

While school dust cannot be prevented it can be minimized by attention, wherever possible, to the sources of its production.

1. The floor should be so solid that the boards do not spring when pupils move about the room.
2. The boards of the floor should be so closely laid that there are no cracks to retain the dust.
3. The air intake should be high enough from the ground to avoid the drawing of dust into the building.
4. The vacuum air chamber should be kept free from accumulations of rubbish and should be regularly cleaned.
5. Furnace dust will be largely eliminated if the furnace room is not located directly under the building.
6. If the furnace room is directly under the building, the doors should fit tightly and must not be left open or ajar.
7. The playground should have a hard surface and should be well drained.
8. Foot scrapers and good door mats should be placed at all entrances and they should be used.
9. A central vacuum cleaning system will eliminate the greater portion of dust due to cleaning.
10. A good grade of light oil is always desirable in preventing dust from rising into the air or settling on furniture. Sweeping compound should be used when the floor begins to lose the oil until the vacation period following, when it can be re-oiled. Compound should always be used for cement and other floor surfaces where oil has little effect.

Under the very best possible conditions, however, all dust cannot be eliminated and the work of dusting must be performed.

<sup>1</sup>For results of bacterial counts found on surfaces of furniture, see Frost, Wm. D., and Armstrong, V. A., "Bacteriological Tests of Various Methods of Cleaning," *Proceedings of the National Education Association*, pp. 985-990, 1911.

For results of bacterial counts found in classroom air, see Lambert, John, "Preparations for the Prevention of Dust in Schools," *The Child*, London, pp. 279-280, Jan., 1912.

#### Needed Frequency of Dusting

*Frequency of Performance:* Practice in eighteen schools, of the better type studied, and requirements specified in 63 of 71 sets of rules and regulations making frequency of performance specifications, agreed that classrooms should be dusted daily. More frequent dusting would be impracticable, if not impossible, because of the use of rooms throughout the day. On the other hand, dusting less frequently than daily would be insufficient. The dust raised by use of the rooms during the day, their cleaning in the afternoon and the settling of dust during the night, would mean the use of dusty desks by pupils each day they were not dusted. Practice in all of the schools observed and in 89 per cent of the requirements of rules and regulations, of dusting daily, should be accepted as the standard for frequency of performance of dusting classroom furniture.

There is less agreement as to frequency of dusting the woodwork in practice in the schools studied, and in requirements of rules and regulations. In practice woodwork is dusted weekly in seventeen of the eighteen schools, while 34 of the 44 rules and regulations require this work to be performed daily. Many of these requirements are due to the fact that no distinction has been made in rules and regulations between the frequency required for dusting the furniture and woodwork of a room.

The writer believes that the practice of dusting woodwork weekly is sufficient for the following reasons:

#### Dusting Woodwork

1. There is less need for frequent dusting of woodwork than formerly. The principle both of daily cleaning and dusting has changed from that of stirring up the dust on the theory that it will escape through open windows, to that of quickly removing it. Consequently, less dust will settle on the woodwork.
2. When the rapid feather duster was in use, janitors had time to dust woodwork before school began each day. But with the slower and more careful and efficient methods of wiping dust from furniture with the soft cord duster or cheese cloth, they do not have time to dust woodwork every morning.
3. Due to the fact that woodwork will, in the same amount of time, catch and retain less dust than flat furniture surfaces, and further that children are not brought into such close contact with the dust of woodwork as with that of furniture, there is not the urgent need for wiping dust from woodwork daily as was true with classroom furniture.

The frequency of dusting walls and ceilings varies both in practice in schools observed and in requirements of rules and regulations from weekly to yearly. The central tendencies in both cases indicate that such work should be performed three times per year. Likewise, median practice in schools observed and requirements of rules and regulations indicate that pictures and window shades should be dusted three times per year.

Radiators of school buildings should be placed above the floor at such height that a floor brush or vacuum will clean space under them. Where they are low, medium practice was to use a hand brush under them two times per week, while five rules and regulations making specifications required that this be done daily. Where radiators are not used by pupils as convenient places for the disposal of waste paper, chewing-gum and the like, two times per week should be sufficient, since the floor beneath them is not used.

#### Morning Dusting

*When to Dust:* In seventeen of the eighteen schools observed, dusting was performed in the morning before pupils arrived. This time was also required in 48 of 57 rules and regulations making time of performance requirements. Often a definite time for completion is specified in the latter for completion of the work, the most common requirement for the close of this work being 8:30 a. m.

The reason this work should be performed in the morning rather than at night is that it takes time for dust stirred up by movement of pupils and the sweeping of rooms to settle, and rooms dusted after school are dusty again the next morning. The same argument applies to the dusting of special rooms, though those that are not in use at the beginning of school may be dusted after the dusting of classrooms is completed.

The dusting of woodwork can best be performed on Saturdays, since the close of school for the week is the only time available for this work. Walls and ceilings can be dusted thoroughly only at the three vacations since the work is time-consuming and requires that the rooms be not in use. Pictures and window shades should also be dusted at these periods and if buildings are located in dusty sections may need it more frequently. Where pupils and teachers do not cooperate to keep rooms clean, dusting from under radiators may be made a part of the daily sweeping program. In other cases it may be made such two times per week.

*Time Studies and Quality of Results Analysis:* In determining the time required for dusting, "pieces of furniture" was used as the unit, and the time required for each room timed, was reduced to equivalent time required to dust 40 pieces of furniture, assuming this to be the number present in a typical classroom.

#### Criteria for Judging Dusting

In determining the efficiency of results, the 5-point grading system was used; the grade was assigned to the results of dusting rooms immediately after each observation, using the following criteria as bases for assigning grades:

Dusting is deemed most efficiently performed when:

1. Dust is removed from furniture rather than stirred up to be circulated into the air, later to re-settle upon the furniture and floor.
2. The surface of articles dusted is covered most completely, such as all corners, edges, etc.
3. The least dust remains on the surface dusted.

The data for many observations of janitors were taken and considered as showing indications of probable efficiency of results and economy of time. Experiments indicating differences in time required or quality of results obtained, per classroom containing 40 pieces of furniture, for the several tools, treatments and procedures, were performed under controlled conditions. Some of the elements of control were: The performance of the work by one man, disinterested in the outcomes; dusting by all combinations of tools, treatments or procedures, where comparisons are made, on the same day; using the combinations in reverse order on another day to avoid effects of fatigue, etc.

*Tools and Appliances Used in Dusting:* Of 43 janitors observed regularly dusting the furniture of classrooms, eighteen use the cheese cloth, fourteen use the cotton flannel cloth, eight use the short, soft cord duster with handle, two use the feather duster, and one uses a hand towel. The cloth, therefore, is in most general use, but this is probably due to the fact that many janitors are not provided with the more expensive manufactured cord duster.

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In comparing these five tools or appliances we find that grades vary according to treatment and method of procedure used. Comparing them where treatment and methods of procedure are controlled by being held constant for each comparison, for example, (1) where each tool or appliance is used dry and by the back and forth motion, or (2) oiled and with the circular motion, etc., we find that in all such combinations the manufactured duster, the cheese cloth, and the cotton flannel cloth give equal results in each case, which are in every case superior to use of the stiff hand towel or the feather duster.<sup>2</sup>

**Feather Duster Poorest Tool**

Of the three superior tools or appliances it is impossible to determine any superiority in results accomplished. The elements of treatment or method of procedure that enter to lower one enter likewise to lower the other.

The disadvantage arising from use of the hand towel are that it will not catch and hold dust so well as the softer cloths or the cord duster. The feather duster accomplishes the poorest grade of work of any tool or appliance used. This is not surprising when we consider that the principle of dust removal by this tool, is that the spring of the feathers is calculated to stir up the dust into the air rather than to remove it, and one of our criteria for grading the effectiveness of results, as set forth above, was the removal of dust rather than stirring it up.

On the other hand, the principle of the short, soft cord duster and soft cloths is that they will not only remove dust from furniture, but retain it in the duster. Such a duster must be frequently cleaned with the vacuum or shaken in the open air. Such dusters must also be frequently changed to remain effective.

The feather duster is the most rapid tool or appliance to use under any treatment and by almost any method of procedure. However, it must be ruled out because of the poor results accomplished. Wherever the feather duster is used, it is used merely as a device for saving time rather than for the effectiveness of results accomplished.

**Cord Duster Best Tool**

In comparing the time required by various methods of procedure and under various treatments for the cheese cloth, cotton flannel cloth and cord duster, we find, as would be expected, that there is practically no difference in time required by the first two methods. However, under every combination of treatment and method of procedure, there is a distinct advantage for the cord duster over the cloth appliances. For instance, we find that the average difference in favor of the cord duster for the various methods ranges from 23 seconds to 51 seconds. We find that the average time required, for all the combinations of treatment and methods of procedure is 130 seconds for the cord duster, and 163 seconds for the cheesecloth duster to dust a room containing 40 pieces of furniture. This difference of 33 seconds means that it requires 125 per cent as much time to dust with cheese cloth as with a cord duster when an average of all methods is considered. But there are certain methods of procedure that are advantageous to the cord duster. Therefore, when the most advantageous method is considered, we find a saving of 51 seconds for use of the cord duster over the cheese cloth. We thus have a loss of time of 41 per cent if the cheese cloth is used instead of the duster.

*Treatment of Tools and Appliances Used:* Of the 43 janitors whose work was studied, 21 dust with a dry duster, while nineteen dust with a duster treated with oil or kerosene. In the

latter case the duster is oiled and allowed to dry until only sufficient oil remains to catch and hold the dust. Furniture rather than floor oil, which becomes gummy and sticky on desks, should be used. In controlled experiments with the various methods of treatment, we find that the dry duster of whatever material gives a lower grade than the treated duster. Whatever the treatment, whether oil, kerosene or water, the treated duster, if used by the best methods and if the best type of duster is used, was capable of accomplishing excellent work. The chief difficulty in using the dry cloth or the dry cord duster is that it stirs up dust, no matter how carefully used. The results with variously treated dusters indicated no difference in the quality of work performed. Janitors claim that the dusters dipped in oil and dried out, have a slight advantage from the stand-

Experiments using one duster in the right hand only, dusting on both sides of every alternate aisle showed no gain in time for this method. The saving that is gained in walking through every second aisle instead of every aisle, is lost in the necessity of turning from one side of the aisle to the other and the difficulty of reaching the right hand across the body, or of turning the body to dust the desks on the left side. The person dusting must turn his body about 120 degrees in order to be in a position to dust easily the desks on the opposite side. This must be done at every alternate desk. One duster at a time and one row at a time, are, therefore, to be preferred because the body may be kept in almost the same relative position for an entire row of desks, which requires less adjustment of sight and movement.

*Methods of Procedure:* Three methods of attacking the dust on furniture are:

1. A circular motion on desks, seats and backs of seats.
2. Wiping the desks back and forth for all space dusted.
3. Flipping the duster against the pieces dusted.

The cord duster does not lend itself to flipping and the feather duster lends itself to the flipping method only. Cloths may be used by any method. The majority of janitors used the cloth with the flipping method, many used the circular method of wiping, and a very few used the method of wiping back and forth.

**Wiping Is Best Procedure**

In controlled experiments by the various methods of procedure it was determined that the best results were found, in using every kind of duster or treatment, to be those secured by the method of wiping the pieces of furniture back and forth. The circular method of procedure gave second best results, and the flipping method gave poorest results. Flipping a duster against the furniture, even though the duster be of the best type, and oiled, raises considerable dust and leaves much space undusted, thus violating two of the criteria previously set up for effective dusting. With the circular motion, there is much duplication of space and some space is left undusted. These results were generally graded as "good," rather than "excellent" as was secured by the method of wiping back and forth.

Considering the results obtained, we may say that whether we use the cord duster or cheese cloth, whether they are oiled or dry, the most efficient method is to wipe desks, seats and backs of seats back and forth from end to end; the second best method of procedure is to wipe them with circular motion as is often practiced by janitors; and the poorest method of procedure is that most frequently practiced—of flipping dusters against the pieces of furniture to be dusted.

**Flipping Undesirable**

The flipping method, when the cloth is used, is more rapid, which probably explains its greater use by janitors. The circular method is the slowest of the three. This is due to the extra movements required because of duplication of space, about four or five circular movements being required to cover the same space as two movements by the back and forth method. We may conclude that the cord duster can be used advantageously by the back and forth method both from the standpoints of time required and quality of results secured, and that while the flipping method is slightly more rapid for use of the cloth duster, it cannot be recommended because the results are not satisfactory.

*Other Dusting:* Where a vacuum cleaner is installed, the dusting of woodwork, walls, ceilings, etc., can best be performed by this means.

(Concluded on Page 140)

<sup>2</sup>For the results of these experiments see Reeves, C. E., *An Analysis of Janitor Service in Elementary Schools*, Teachers College Contributions to Education, No. 167, Teachers College, Columbia University, New York, 1925.

# The Predictive Value of the IQ

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Our problem here is to inquire into the predictive value of the IQ in the instruction and guidance of pupils of secondary education. In other words, we wish to find out how accurately an administrator or a teacher can foretell the probable progress of a student entering high school, or a student who does poorly after entering. First we must ask, "Just what is this IQ, and how is it determined?" Secondly, "What is the relation of the IQ to education as a whole?"

The IQ (intelligence quotient), is a numerical value obtained by dividing the mental age of the pupil by his chronological age. The mental age is determined from the score of a pupil of a given chronological age (number of years old) on an intelligence test. For the normal average pupil the IQ is unity. If the pupil be brighter than the average, his IQ is above unity; if he be dull, it will be below unity. For example, 100 represents normality. Scores above this, such as 105 or 110 indicate acceleration. Scores below 100 indicate that the pupil is retarded for his age, and that he will not do his school work as well as the average pupil for his age.

This problem is very closely related to secondary education. The secondary school is growing so rapidly that economical management would be extremely difficult without the use of some such device as the IQ. Educators say that the failure rate can be reduced; that the pupils can be placed in subjects best suited to their needs. Some of the patrons of education believe that such classification tends toward unjust stratification of society. They argue that when a pupil is placed in an inferior section he becomes despondent and will not even try because he thinks it no use. Thus we have some very vital problems growing out of the use of the IQ. Let us take up the major problems involved in this issue.

## The Validity of the IQ

If the IQ figures so prominently in secondary education it might be well to inquire into its validity, or constancy. If a pupil had an IQ of 100 when tested at the age of 10, but had an IQ of 90 when tested the next year, and 110 when tested the year following, it would be of practically no value because it was not constant. But if a given pupil always yielded the same score for his age from year to year, then the IQ could be said to be constant. Thus if it be a fluctuating factor, varying as the pupil passes from one grade to the next, it is not a very reliable measure for use in predicting the progress of a pupil. The assertion is made that intelligence is so complex, involves so many factors, that it is impossible to get an accurate measurement that will be found to be constant. It is true that minor changes, physical and mental, are constantly taking place. And for that reason it is probably true that mental measurements will never be as accurate as those in physical sciences.

We have, however, this statement from Ditmars:<sup>1</sup> "The intelligence test appears to be an instrument of high predictive value in the science of education, since it not only indicates where a pupil can properly be located so that he may apply himself to advantage, but it also indicates what may reasonably be expected of him." Terman<sup>2</sup> found from a number of cases covering a period of several years that there was a correlation of .933. Perfect correlation would yield 1.000. He notes that those who

ranked high in the early tests ranked high in later tests; the average remained close to average; and the low remained low. Dickson,<sup>3</sup> from a review of twelve such studies by different investigators, found substantially the same thing as did Terman.

From the above studies it is safe to conclude that the IQ is a constant, unvariable factor; and that it is therefore reliable for purposes of predicting pupil progress.

## Value of the IQ for Grouping Pupils

There are many methods of grouping for instruction. Sections are sometimes made alphabetically; sometimes according to the preference of pupils for teachers; and conversely, the preference of teachers for pupils. In such methods no attention is given to the mental capacity of the pupil—except that each teacher wants to get as many of the bright pupils as she can, and get rid of as many poor ones as possible. Another, and more scientific, method of grouping is on the basis of the IQ. This method places those of a given ability in one section, those of another ability in another section, etc. Thus, presumably, the pupils are sectioned on the basis of their ability to do work.

But the objection comes, "What test shall be used as the basis for sectioning?" This is a very important consideration in the light of the findings of Breed and Breslich,<sup>4</sup> in which they found that the pupils who would be placed in a high group on the basis of one test would be placed in the middle group by a different test, and in the lowest by yet another test.

This argues for the use of much caution in judgments made on the basis of tests. But does the above suggest that tests should not be used at all in the basis for grouping? I do not think so. It is true that twenty per cent of the pupils might be misplaced. These few can yet be adjusted during the first weeks of school if it is found advisable. Consideration must be given general ability, physical maturity, interest, and probable destiny in social life. But we must agree with Dickson<sup>5</sup> when he says, "Mental ability is the most important single factor operative in determining various types of school work." It is better to start with eighty per cent correctly placed than to have the old type of promiscuous selection.

It is recognized that while this can be done effectively in the large high school, there is serious limitation in the small school. The schedule is not flexible enough to permit homogeneous grouping in more than one or two subjects. Then, too, there is not sufficient number of courses offered to serve a great variety of interests.

Another limitation in homogeneous grouping is the inability, or lack of interest of the average teacher to arrange the work so that it fits the various groups. There will be the tendency to give practically the same work to all sections. In such instances the bright sections are not kept at top speed, and the dull ones are criticized by the teacher for not doing as well as the brighter groups.

## Value of the IQ in the Election of Subjects

Does the IQ have a high degree of accuracy in predicting the probable success a pupil will have in a given subject? Factual evidence shows that it has. For example a pupil having a low IQ finds it very difficult to do well in a foreign language. A pupil with a rating of 95

finds that he must work a great deal harder than the average to keep up with the language class. He usually drops that subject at the end of the first year, or fails in attempting to do the second year of it. The same is true for mathematics as for foreign language. This type of student almost never goes to college. Thus it would be better for him to spend his time on subjects in which he can accomplish more than in those mentioned above.

Some private schools do not permit pupils with an IQ below 95 to enroll in foreign language courses. It would be well for high schools to discourage pupils with an IQ below 95 to attempt such courses. Instead they could pursue motor studies such as typing, manual training, shop work, etc., in which they frequently do as well as, or even better than, pupils with a high IQ. This is, in all probability the kind of work they will elect after leaving school. Thus it seems to me that it would be a good thing for the pupil in particular and for the school in general to give such pupils a start along those lines.

## Value of the IQ for the Ultimate Career of the Pupil

It is sometimes argued by administrators, more frequently by teachers, that it is none of their business what the pupil has done before coming to school, or what he will do after he leaves it. Their job, they think, is the teaching of subject matter. Dickson<sup>6</sup> cites the case of a boy who wanted to become an engineer. The mathematics teacher encouraged him in the fancy even though he was very poor in mathematics. Because of this encouragement he took freshman algebra three times before passing it. He did little better in geometry. An intelligence test showed that he had a low IQ—far too low to insure success in the line which he had elected. The teacher thought she was doing a great thing for the pupil and his family by encouraging him to struggle through mathematics year after year when it was evident that he would probably not be successful in the work which employed that type of thinking.

I have had in my own teaching similar instances which I handled better than the above teacher because I allowed myself to be guided mainly by the IQ. Last term two girls who did poorly in mathematics wished to enroll in my physics class. I discouraged them from doing it, on the ground that they could not handle the mathematics involved. I suggested domestic science to them. One girl enrolled in domestic science; but the other would not be persuaded. After two weeks in the physics class, the second girl saw the hopelessness of trying to keep up with the class. She then enrolled in domestic science. I learned later that each of them did very well there. Failure was avoided by seeing the situation in time to make the shift to another course.

These examples are typical of a great many in every secondary school. Is it not a real service to the pupil, the teacher, and certainly to the future community, to place the pupils so that they can obtain the best possible training to fit them for life after school?

It has been pointed out that the barber needs an IQ of only 85. However, there are doubtless many barbers who rate 120 or beyond. Does this mean that, upon finding out their rating, they would immediately give up barbering for a position requiring a higher degree of intelligence? In most cases, no. They have become

<sup>1</sup>Ditmars, Thos.: *Intelligence Tests as a Basis for Classification and Grading*. Education, Vol. 44; Page 33.

<sup>2</sup>Terman, L. A.: *Intelligence of School Children*, p. 112.

<sup>3</sup>Dickson, V. E.: *Mental Tests and the Classroom Teacher*, p. 66.

<sup>4</sup>Breed, F. S. and Breslich, E. R.: *Intelligence Tests and the Classification of Pupils*. School Review, Vol. 30; pp. 51-56.

<sup>5</sup>Dickson, V. E.: *Mental Tests and the Classroom Teacher*, p. 65.

<sup>6</sup>Dickson: *Mental Tests and the Classroom Teacher*, pp. 178-9.

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so accustomed to their line of work and thinking that they would not change. Had their IQ been determined while in school, and the real cause of poor work and lack of interest eliminated, they might today be doing well in a higher type of work.

There are objections that such classification of pupils will tend to stratify society; that there will not exist the flexibility now present under our theoretically democratic government. The counter point is that society is already stratified. Except in an extreme form of communism there must be leaders—thinkers for society. The question becomes, "How shall these leaders be chosen—by privilege (money), or by ability?" Our conclusion here must be that guidance based on mental tests (other factors given due consideration) is the most democratic way of finding our leaders. And we must further conclude that the IQ is valuable in indicating the career which a pupil will probably follow.

**Value to the Classroom Teacher in Lowering Failure Rate**

One of the greatest predictive values of the IQ to the classroom teacher is the reduction of failure among his pupils. It gives him an opportunity to discover the pupils who will probably do poorly in his department. Having done this, he can use other tests pertaining to a particular subject, or better still devise some himself, to locate specific study difficulties. He can at this time find out from the student what he regards as the cause for poor work. By assembling this information the teacher can prescribe some definite study habits which will result in better work. Let me give here the substance of some research work which I did last term.

I gave the Otis Higher Examination to all my pupils (most of them were in the tenth grade). The IQ's ranged from 78 to 129. The median was 103. There was eleven per cent with an IQ below 95. The tabulation showed that each class followed the normal distribution curve pretty closely: a few exceptionally bright ones, some very dull ones, and the great majority midway between these extremes. Thus the test indicated that there would be more than ten per cent definitely below normal, and another four or five along the border who would do poorly if their difficulties were not early discovered and eradicated.

The general test was followed by a "true-false" reading test. The object of this test was two-fold. I wanted to learn the pupils' rate of reading text material, and their ability to comprehend what they had read. Another test was devised to see how well they could find topic sentences, summary sentences, etc. Another test showed what proficiency they had at using an index.

By the end of the third week I found that the indications of the general test were pretty nearly correct. But there were some who made good scores on the general test whose marks on lesson achievement were very low. Some from whom I expected low achievement scores, did creditable work. My interest now changed from group testing to individual testing.

In this individual diagnosis I had in mind two main problems: How could I devise methods to insure greater rate of progress in the poor student? And how could I influence the capable pupils to do better work than some of them were doing?

Without going into detail on the individual testing, I might say that I devised several tests to show the desirable qualities in a good student. After applying these psychological tests, I asked the student to mention some specific things which he thought might be responsible for his slow progress. Thus, together, we worked out a list of very definite, specific things which we felt were hindering him in his work.

We made counter suggestions for each of the faulty habits found, and added some progressive suggestions besides. I made a copy of these points to be kept in my files; the original I gave the pupil for reference. A week later we went over the list to see how well the difficulties had been met.

I am submitting here an actual case which is typical of many in my files.

Name of pupil—Mary Austin.

A. Suggested by the pupil:

1. Not much time spent in the study of the lesson.
2. Difficulty in interpreting pictures, diagrams, tables, maps, and charts.
3. Tried to get lesson at one reading.
4. Had difficulty at getting started in study hall.

B. By informal tests I found the following:

1. That she read very rapidly, and comprehendingly.
2. That she could concentrate very readily.
3. That she could easily find topic and summary sentences.
4. That she could find the relationship among topics.

C. She agreed to do the following things:

1. To take notes in class.
2. To ask questions in class on points not clear to her.
3. To spend more time on her lessons—using the study helps given the entire class.
4. To come to me with problems that had not been cleared up in class.

I diagnosed this pupil as being very capable, but more interested in social good times than her school work. She became interested in doing better work when I showed her that she could be making 90 just as well as the 35 or 40 she was then making. She did remarkably well throughout the year in all her subjects. Near the end of the term she expressed her appreciation for my interest in seeing her make good.

The above pertains to a girl who had an IQ of 118, but who had never made a grade above

80—she had failed some of her grades or subjects. She was best known among the teachers and students as the "society dumbbell." After it had been shown her that she could do good work, she surprised all her teachers, and the pupils in her classes were astonished.

The point to be made here is that had it not been for my finding her IQ by a test I would probably have judged her as her other teachers had done. The result of such judgment would have been flat failure for her in my course, and low grades at best in her other courses.

**The Effect of the IQ on the Pupil**

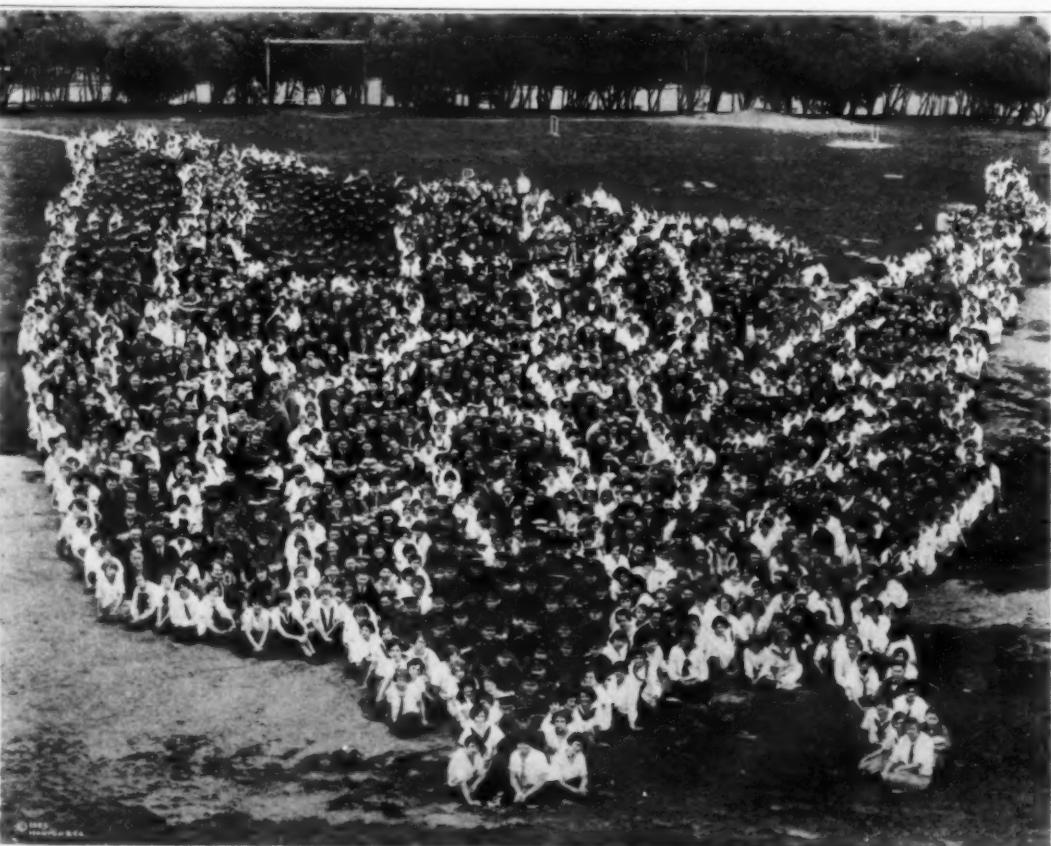
The question might well be asked, "What is the effect of the IQ on the individual pupil?" There is a feeling among many educators and patrons that it creates a feeling of despondency for a dull pupil to be definitely referred to as having limited capacity to learn. The fact is that the pupil already knows this, and his parents have known it for a long time. By use of intelligence tests and other tests we try to help him in his limited capacity.

In my own experience I can say that the IQ produced no ill effect. On the contrary the result was most wholesome. My reason for saying this is based on two things: the reaction of the pupil at the time; and the fact that all but two of my pupils profited sufficiently to pass the course. One of those who failed had an IQ of 78; the other had serious nervous trouble which was not given attention.

Those having the low IQ understood that they would have to work harder than the average in order to keep up with the class. This they were willing to do when shown how to go about it.

It is to be noted that the teacher went to the pupils at the very beginning of the year before they had an opportunity to fail. By finding their specific difficulties and giving study helps he made them feel that he was personally interested in seeing them make good. This personal element is very necessary in predicting the reaction of a pupil with a low IQ.

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A HUMAN MAP OF THE UNITED STATES.

Over 2,000 students of the Mission High School, San Francisco, symbolized their allegiance to their country by forming a gigantic map of the United States on the school campus. The big task of getting this small army into position was handled entirely by ten students. Three days were required by the engineering class to lay out the map on the ground, but only 45 minutes were necessary to bring the students into position.

## Fatigue and Its Relation to School Work

John J. Birch, Schenectady, N. Y.

There is at present a disagreement of opinion as to whether or not the term fatigue should refer to the weariness accompanying both physical and mental exertion, or should be applied exclusively to the physical. Some advocate that fatigue is the result of muscular and not mental effort; that excessive mental exertion produces what might better be called "boredom" rather than fatigue. Those who hold this belief support their argument by naming prominent authors and statesmen whose habit it is to work at night, but they do not mention the fact that the character of their labor differs radically from that of the day. It is the plan of many authors to reserve the evening for occupations of less importance. They do not compose but confine themselves to taking notes or revising what they have written during the day. Furthermore, those who work until the late hours of the night undoubtedly do not have to report in a schoolroom at eight or eight-thirty in the morning for five days a week. But of far greater pedagogical significance is the fact that the adult mind differs radically from the child mind in respect to its fatigability. An adult can indulge in protracted labors which would be detrimental and disastrous to the child.

However, everyone who has studied for prolonged periods of time knows that weariness is an almost inevitable attendant upon continuous mental exertion. Fatigue is the result of labor and as such is a periodic symptom with which every healthy person is familiar. It is one of the fundamental laws of organic life, that periods of recuperation must succeed periods of activity. Over-exertion and over-work are to be guarded against, but not that healthful weariness which is the natural result of physical or mental activity. As fatigue, or boredom, as you will, affects the work of the student, it accordingly becomes a subject for serious consideration. Teachers often complain of being tired, but seldom do they think of the children as likewise being susceptible to fatigue. Their common relay is that "the children are young," for that very reason they become fatigued more readily than adults, since the character of their schoolwork is even more difficult for immature minds than the responsibilities and problems of the schoolroom are to the teacher.

Fatigue, whether caused by physical or intellectual effort, is the result of the accretion of fatigue poisons or toxins to such a degree that they cannot be carried away by the blood as rapidly as they are produced. The brain using more blood in proportion to its size than

the other organs of the body, would naturally suffer most if its supply were poisoned. In muscular action there may be a feeling of weariness when the fatigue is not excessive, but as the poisons accumulate there may be painful sensations which may last for indefinite periods of time.

### The Nature of Mental Fatigue

It is exceedingly difficult to catalog the various symptoms of brain fatigue as evidenced by the pupils, due to the vast array of individual differences and the various powers of resistance. It is a matter of frequent experience among teachers that boys and girls who seem to be prodigies of health and strength, often suffer from great weakness of the nervous system and at times seem to be incapable of intellectual work. Then again there are those who appear to be as mentally alert at the end of the day and of the week as at any other time.

There are numerous indications of the approach of fatigue; the most prevalent perhaps is yawning, which is nature's own way of indicating it. In the act of yawning the lungs are abnormally expanded and contracted which tends to remove larger portions of air, and thus bring in more oxygen to purify the blood. Yawning is generally followed by a drowsiness which is a further indication that rest is needed.

Inattention on the part of the pupils and the setting in of a general ennui is almost an infallible sign of fatigue. By inattention is meant any noticeable deviation from the average interest. A normal boy or girl will indeed be inattentive if the subject be taught in such a way as to make no appeal, or if the teacher attempts to force attention when there is something of greater interest going on outside.

The complement of inattention is restlessness. The late afternoon classes are as a whole more restless than the morning ones and certainly those at the end of the week are decidedly more so; all showing that prolonged periods of schoolwork are conducive to fatigue. This restlessness due to fatigue, should not become confused with the feeling of fatigue which may appear habitually after a small amount of effort on the part of the pupil. The mentally lazy student very often associates an illusory feeling of fatigue with all earnest labor. The child must learn to overcome the slight weariness by new effort.

The difficulty which students have in following an explanation or reasoning out a theorem in geometry is the indication of an intellectual torpor which definitely signifies mental fatigue.

At such times they seem to be dreaming, and really they are, for the mind is beginning to wander because it is not adequately functioning, due to an excess of fatigue poisoning. The ability to do effective intellectual work has been lost; likewise curiosity and the power of attention, which is most important in man, have been practically inhibited.

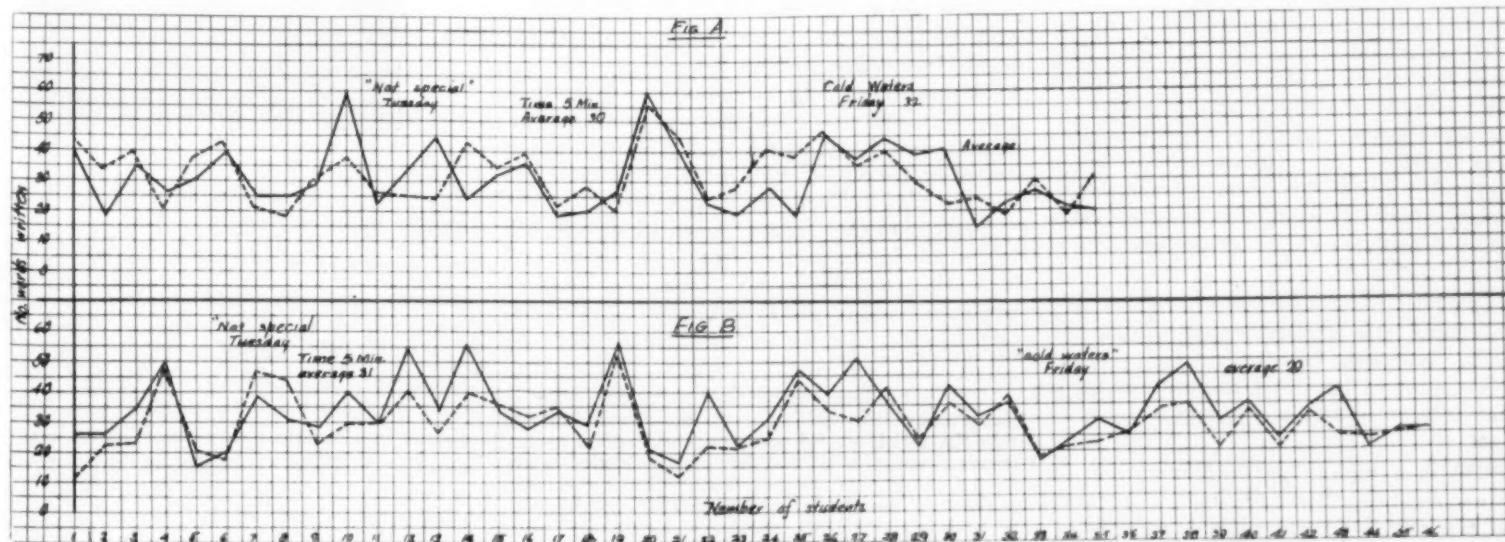
If the mind is held down to work beyond normal limits, until it becomes extremely tired, the student tends to become irritable and petulant. This holds true in adult and child life alike, for as a rule both men and children generally are in better humor in the morning than in the evening. When one becomes fatigued, it is difficult to exercise the power of resistance and the passions attain to such violence that they can no longer be mastered by reason. It is largely because of this fact, that the vast majority of not only juvenile but adult crimes are perpetrated at the latter part of the week, before a period of rest.

### The Lessening of Fatigue

Professor James has said: "To excite the pupil's attention and hold it is the greatest task of the teacher's life. It is this ability to hold attention which marks the born teacher." But to this must be added also the knowing how long to keep the attention of the student without producing excessive fatigue. The best teachers are those who seek never to fatigue their students too much, in any given subject. No true success can possibly be achieved when there is psycho-physical exhaustion of the pupil. A change of attention and work are evidently necessary for rest. A well regulated school should include a considerable amount of extracurricular activity, to act as diversifying agencies, together with carefully studied alternations of subjects. A mind must be made to work just as a field must be cultivated in order to prevent it running to fallow. But the moment study becomes too fatiguing, it ceases to be useful—then it becomes both physically and intellectually detrimental to the student. But above all, the more a pupil is fatigued by a piece of work the less able is he to master it. It is mentally more fatiguing to recall half learned facts than to learn them well at first. The most pronounced cause for fatigue is the having to ransack every corner of one's memory for a fact once partially or imperfectly learned. Furthermore, experiments indicate that it is much more difficult to learn two different sorts of material in rapid alternation than to learn first one and then the other.

There is no better method of checking fatigue than to introduce periods for physical exercise in connection with the work of the school or to

(Concluded on Page 142)



EFFECT OF FATIGUE ON TWO CLASSES OF PUPILS AS SHOWN IN THEIR ABILITY TO WRITE DURING A FIVE MINUTES TEST. THE DROP IN EFFICIENCY TOWARD THE END OF THE WEEK IS DISTINCT.

# Presidents of Boards of Education

Sketches of Men Who Lead American City Schools

## DR. C. J. DONALD

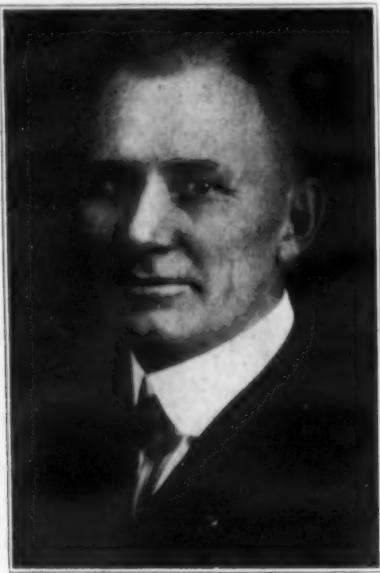
President, Board of Education, Fairfield, Ala.

Seldom does it fall to the lot of one man to serve continuously as president of a board of education for the first five years of the board's history, and this by annual election each year at the hands of his fellow board members. This was the privilege of Dr. C. J. Donald, of Fairfield, Alabama.

Doctor Donald was a druggist and thus secured the title "Doctor." Of late years he has been a very successful real estate man but is never too busy to lend his influence and time to the development of his city along any line. His fine public spirit is shown by his earnest participation in all civic affairs.

Fairfield, the "Model City of the South" was incorporated in 1918, and for the first two years the schools were controlled by the city council. In 1920 a board of five members was appointed and Dr. Donald elected president. The board at once set to work to provide school facilities for the rapidly growing city. A temporary building of ten rooms was immediately constructed and plans projected for bond issues for permanent buildings.

In May, 1925, Dr. Donald, who had been re-elected by the city council as board member for another five years, asked to be relieved of the presidency of the board. During the five years of his service as president, two bond issues had



DR. C. J. DONALD,  
President, Board of Education,  
Fairfield, Alabama.

been floated and six buildings had been erected, three for white and three for colored. Two buildings for whites deserve especial mention. The first contains twenty rooms, has been in use for three years, and is thoroughly modern in every respect. The second is now being erected and will be ready for occupancy in September, 1925. It is of fire-resistive brick construction, contains thirteen classrooms, auditorium, and lunch room.

Probably the most significant event of Dr. Donald's term was the fact that the second bond issue, in amount \$144,000, for the purchase of twelve acres of land and the erection of a building, was voted in the ratio of 190 for to 1 against.

Fairfield is a rapidly growing steel city of 10,000 people, near Birmingham. The problems of the next five years will doubtless be as great as for the past five. Mr. J. T. McLaughlin has been chosen by the board to succeed Dr. Donald. He is a successful business man, and



MR. EMERSON R. LEWIS,  
President, Board of School Inspectors,  
Joliet, Illinois.

is assistant superintendent of the By-Product Plant, one of the big industrial developments of the city.

**EMERSON R. LEWIS**  
President, Board of School Inspectors, Joliet,  
Illinois

The application of the principles of big business to the running of the city schools is one of the items which looms large in any examination of the attitude taken by Mr. Lewis. He stands unqualifiedly for a definite yearly budget and an adequate accounting department which at all times shall be able to furnish accurate data.

A second business principle is that of the definite location of responsibility. In carrying out this idea responsive action is encouraged and initiative and resourcefulness are called into maximum service. When once a given policy is approved by the board, it is at once localized. The correlate principle of report and the careful checking of results, completes the cycle which leads toward efficiency, economy and certainty in "getting things done."

From a physical standpoint, the emphasis is upon the providing of adequate quarters for each child. This includes opportunities for study, recreation and social improvement under safe, sanitary and inviting conditions. To this end the building program includes the most modern heating and ventilating systems, gymnasiums and assembly halls, as well as classrooms, furnished with modern equipment.

As a matter of community use of buildings and grounds, the gymnasiums, auditoriums, special rooms, as well as the playgrounds, are made available for community gatherings, games, plays and other general welfare purposes. Just how large a service is rendered is shown by the almost daily schedule which marks the use of these facilities by the public.

Every encouragement is given which will call out a maximum service from the entire staff, both instructional and operative. Modern equipment and elasticity of plans, all lend themselves to securing the best possible general education.

"The prevailing educational situation exalts in importance the position of superintendent of schools, stabilizes its economic and social status, requires superior personality and extended training on the part of its incumbents, and encourages a growing number of highly selected young men to seek the training necessary to qualify them for efficient service on the job."—Dr. M. E. Haggerty, School of Education, University of Minnesota.

cational results. Under the present regime a modern system of remuneration for instructional service has been established. It is forward-looking and keeps the door of opportunity open for those who improve their services through additional training.

These policies and principles represent in a large way the sound basis which governs the splendid cooperation of members of the board as well as its relationship to the entire staff and the community which it represents.

Mr. Lewis secured his professional education at Yale and embodies high ideals and standards for practical training. He is specially interested in banking and law. At present he is an assistant secretary of the First Trust and Savings Bank of Chicago.

**W. E. FRANKLIN**  
President, Board of School Commissioners,  
Winston-Salem, North Carolina

Mr. Franklin, chairman since 1919, was first elected a member of the school board in 1909, after a service of eleven years as secretary-treasurer and member of the board of aldermen of the city. Mr. Franklin recalls with pleasure the fact that his father was one of the first members of the school board elected by the people of Winston in 1884.

In a recent speech at the opening of one of the city's new grade schools, Chairman Franklin denied that he in any way was an old man, but he admitted that he could recall the time when Winston had only one schoolhouse of one room with one teacher and a few pupils. Since that day Mr. Franklin has seen Winston-Salem grow to a city of 65,000 people, with taxable values of \$110,000,000. The schoolhouses now number 15, the teachers over 300, the number of students nearly 12,000.



W. E. FRANKLIN,  
President, Board of School Commissioners,  
Winston-Salem, N. C.

Since Mr. Franklin became chairman, the city has voted \$1,900,000 for schools and playgrounds, and has now under consideration another large bond issue for the same purpose. The Richard J. Reynolds High School, costing \$1,250,000 was formally dedicated in May. Over 200 acres of playground have been acquired in the past two years. The present program is to place no school building, for white or colored children, on less than ten acres. The high school has 75 acres, three of the grade schools have 25, 30 and 40 acres, and one of the colored schools has 40 acres of school playground.



POINT LOMA HIGH SCHOOL, SAN DIEGO, CALIF.

Edwin T. Banning, Architect.

#### ECONOMY IN SCHOOL BUILDING CONSTRUCTION

Arthur L. Weeks, Consultant, Survey Committee, New York, N. Y.

School buildings are subject to frequent and varied criticism because of real or fancied extravagance in their construction. Sometimes this criticism is just. More often it is a casual opinion without basis of fact, and usually it is a disparaging comment on the amount of money wasted on exterior ornamentation or modern equipment.

Few of those who offer such criticism realize that the architectural ornamentation and other visible details of the average modern school building are a comparatively small factor in its cost. That approximately nine-tenths of the total expenditure is for structural necessities such as foundations, walls, floor slabs, girders, heating plant, plumbing, etc. That approximately five per cent of the expenditure represents a judicious economy in the use of first class wearing materials for floors, roofs, etc., and the remaining five per cent is the average amount spent for architectural effect or beauty.

Our most strenuous critic rarely demands a bare utilitarian factory building. Civic pride would not stand for it. Good business sense requires proper wearing materials to obviate unnecessary maintenance costs. How then is any economy possible? The logical place to look for it would be where the bulk of the money is spent; i. e., in the structural parts of the building because no appreciable saving can be effected unless the purely structural costs can be reduced.

At the first glance this seems a difficult thing to do. City ordinances and good engineering practice determine the size of columns, girders and slabs, the size of foundations and the thick-

ness of walls. The requirements of wear and service dictate the use of many materials not governed by code. A reasonably good standard of heating, ventilation and sanitation is essential. Therefore it is obvious that the only practical method of reducing building costs without lowering the standard of construction is to reduce the volume of structural parts. In other words; *to make the building smaller.*

#### Efficiency by Space Elimination

This does not mean a reduction in the pupil capacity of the buildings, or that any of the educational requirements of the school be omitted. It does mean that all *waste areas* should be eliminated, that unnecessary length or height of walls and partitions should be avoided, that each room or subdivision of floor area should be carefully designed for its specific purpose, and that in general, each building

should be exactly planned for an exact need. The tremendous improvement and economies that have been effected in the schools of many cities within the last five years is due solely to the systematic application of this common sense rule of planning.

To attain this desideration, the first essential is that the superintendent or educator in charge shall have positive and accurate knowledge of all educational requirements. He is the "general manager" of the school system and he, if anyone, should know exactly what is needed in the building. The working out of the details may be delegated to subordinates who are specialists in various activities, but the final responsibility for correct and economical planning falls upon the superintendent.

This is not a suggestion that the superintendent should be a combined educator and



FLOOR PLANS OF THE POINT LOMA HIGH SCHOOL, SAN DIEGO, CALIF. Edwin T. Banning, Architect.



**THEODORE ROOSEVELT JUNIOR HIGH SCHOOL, SAN DIEGO, CALIF.**

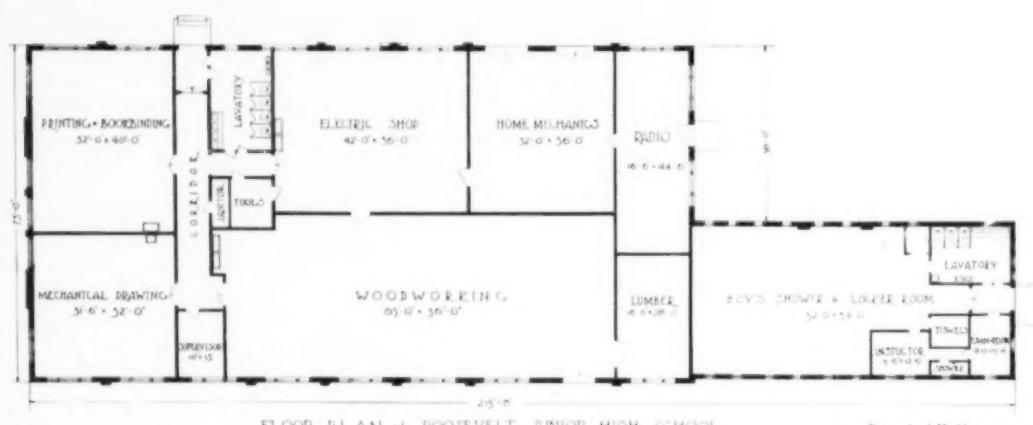
Theo. C. Kistner, Architect, San Diego, Calif.

school architect. It simply means that as director of the business of education he should be thoroughly informed on all details of his housing problem. He should know the exact necessary size of each room in his proposed buildings, the working space required by each article of equipment, the probable percentage of use of the various parts of the buildings so that the necessity for same can fairly be evaluated.

## The Educator and the Architect

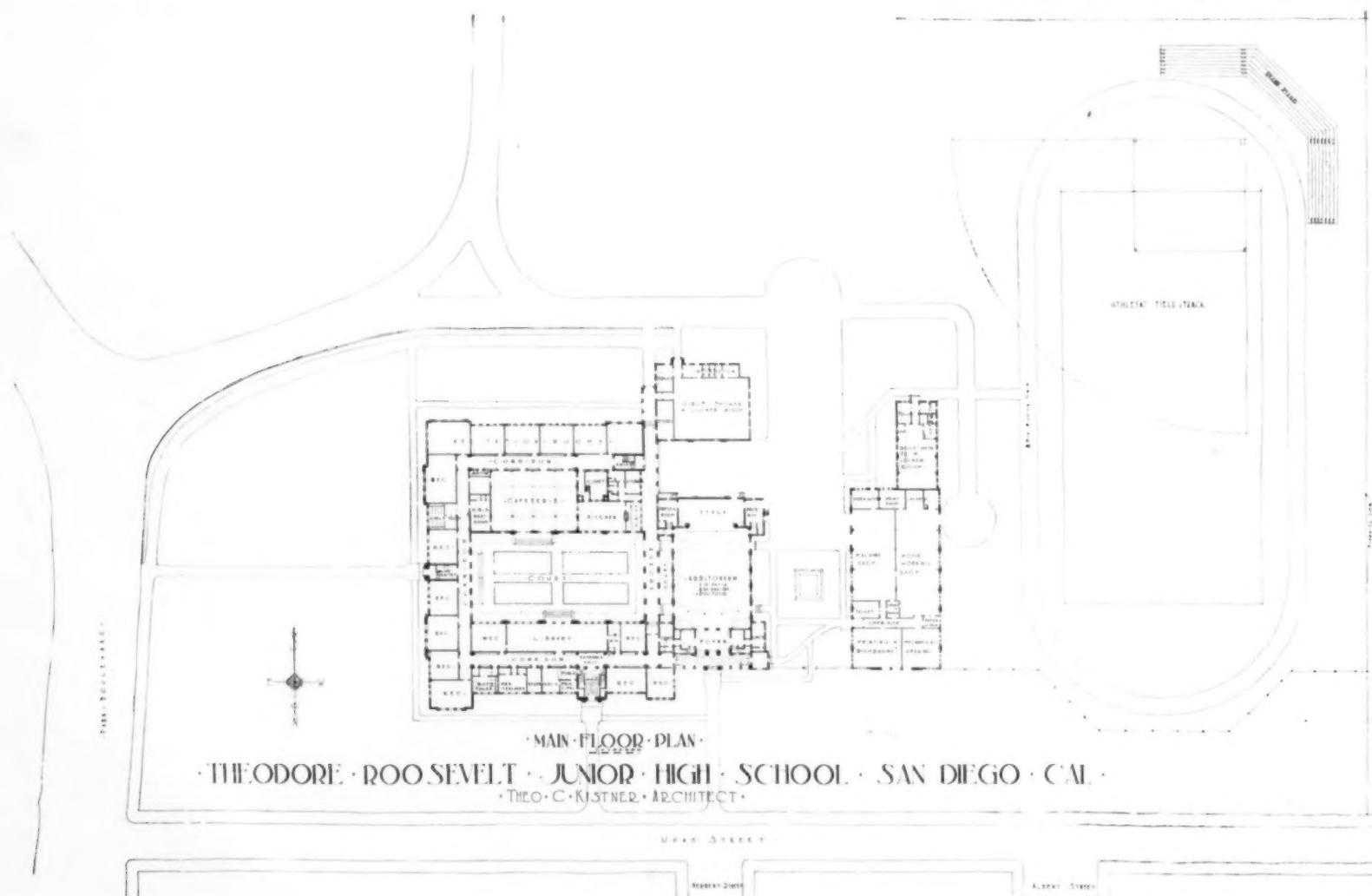
This information he transmits to the architect whose function is to translate these specific needs into terms of floor area. His result is dependent upon his professional skill and familiarity with school building problems.

If the educator knows exactly what is needed, and if the architect will strive for an efficient building rather than an architectural monument, the product is bound to be satisfactory.



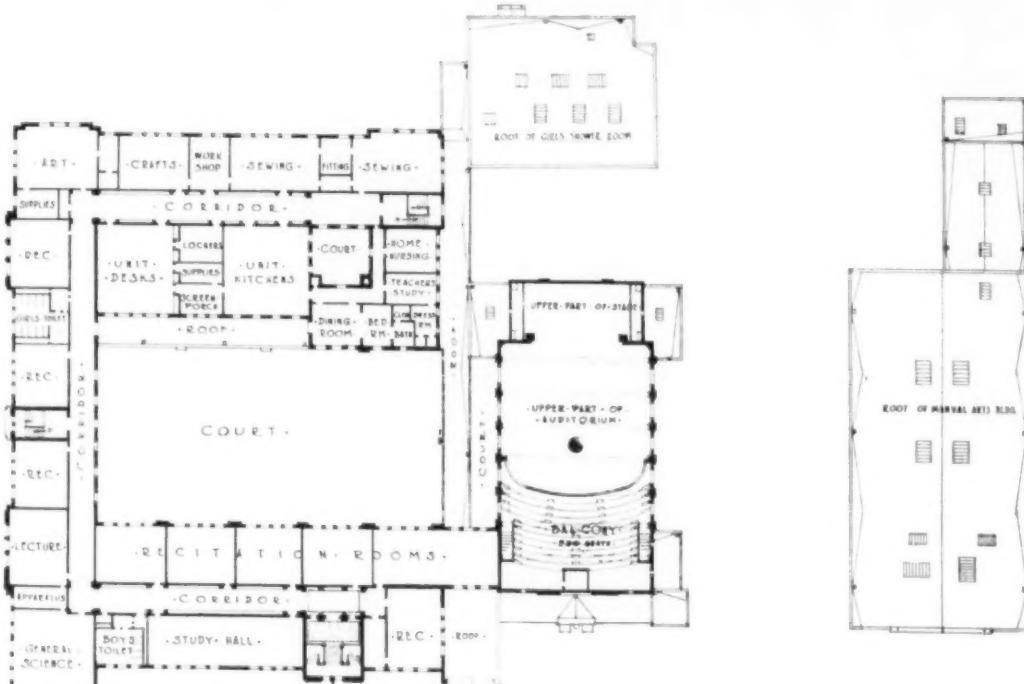
FLOOR PLAN of ROOSEVELT JUNIOR HIGH SCHOOL  
SAN DIEGO, CALIFORNIA  
(SHOP BUILDING)

Edited by L. Madsen  
Arch. Dr. Student, SDMS





**SHOP BUILDING OF THE ROOSEVELT JUNIOR HIGH SCHOOL**  
T. C. Kistner & Co., Architects, Los Angeles and San Diego, Calif.



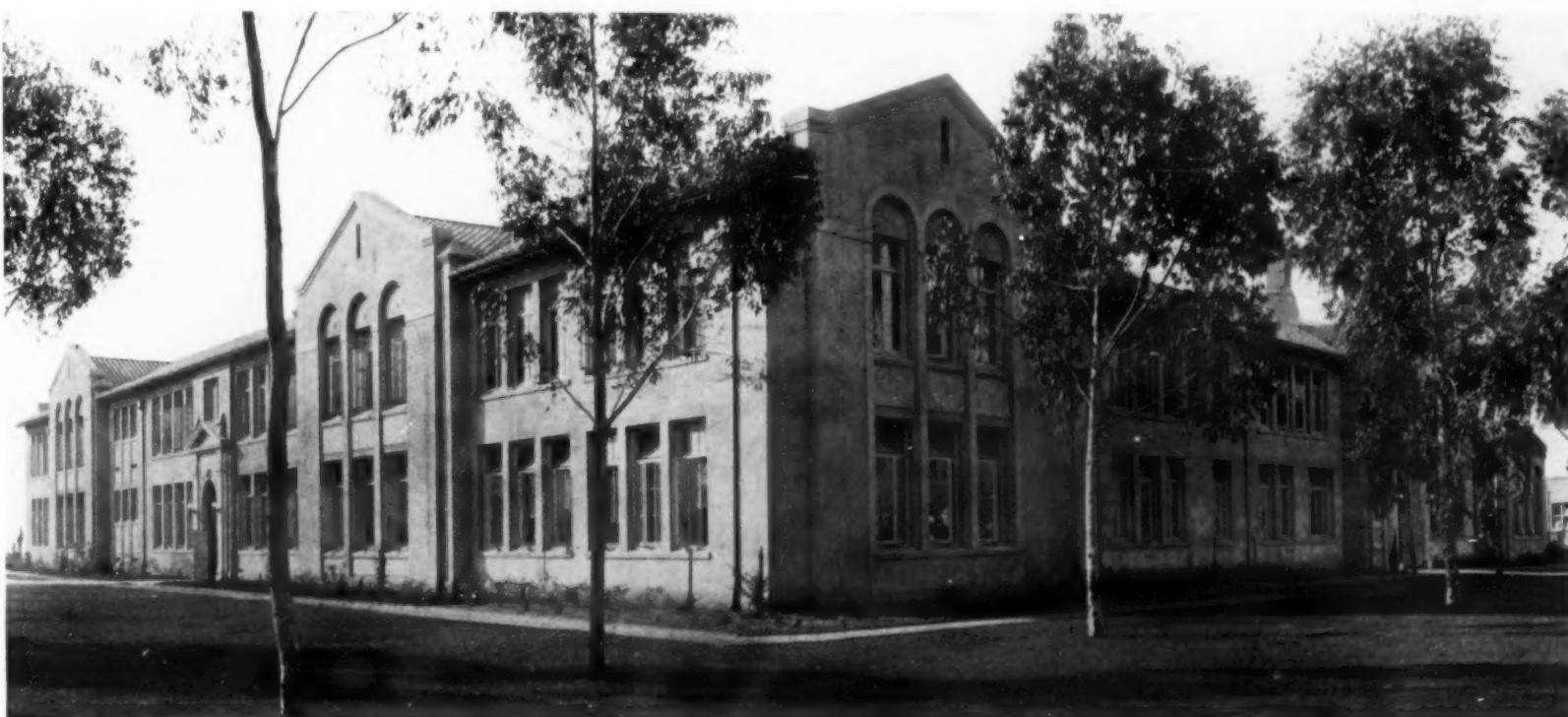
SECOND FLOOR PLAN, THEO. ROOSEVELT JUNIOR HIGH SCHOOL, SAN DIEGO, CALIF.  
Theo. C. Kistner, Architect, San Diego, Calif.

It is not suggested that good architectural appearance should be disregarded or even slighted, but all too frequently the architect has warped his plans to fit his preconceived idea of what a school building should look like. All of which suggests the inevitable fact that an ideal school building is possible only by the closest cooperation of a well informed educator and an architect trained in the solution of school problems. The educator will know the least dimensions of rooms necessary to house his various activities. The architect will know how these rooms may be assembled in the most compact form, the tendency being toward less cubic contents of building, a reduction in the volume of structural parts and a lower cost.

The experience of everyone who has studied school planning has shown that the most prolific source of waste in the average building lies in over-sized rooms and badly planned corridor areas. When we consider that one foot of unnecessary length in a typical standard classroom and adjoining corridor represents approximately four hundred cubic feet of building content, absolute waste, and that this waste is multiplied by the number of such rooms in the building, it is evident that over-sized rooms are an expensive luxury. In most states the minimum size of classrooms in relation to the number of pupils to be housed in each, is determined by state code. Experience has shown that such minimum requirements are ample and should not be exceeded.

### Corridor Wastes

In a similar manner there is frequently a tremendous waste of building materials and labor in the construction of unnecessarily wide corridors. One foot of extra width means the useless expenditure for all the labor and material involved in the construction of a cross section of the building, one foot wide by its entire length, from the foundation to the roof. Our amiable critic who protests the extravagance of a few hundred dollars spent for an attractive entrance—a touch that may save the building from the charge of mediocrity—does not realize that many thousand dollars have been spent for a uselessly spacious corridor. There is no fixed rule for corridors except in some few cities where a minimum has been determined, but an eight to ten foot width is ample for most buildings, and a corridor wider



ROOSEVELT JUNIOR HIGH SCHOOL, SAN DIEGO, CALIF. (Situated at the north entrance to Balboa Park—a park of 1400 acres.)

than twelve feet is seldom necessary or advisable. It should be remembered that corridors are provided for the purpose of traffic only, that in many buildings a large part of the traffic is vertical and not horizontal, and that with proper placement of stairs the need for large corridor capacity is obviated.

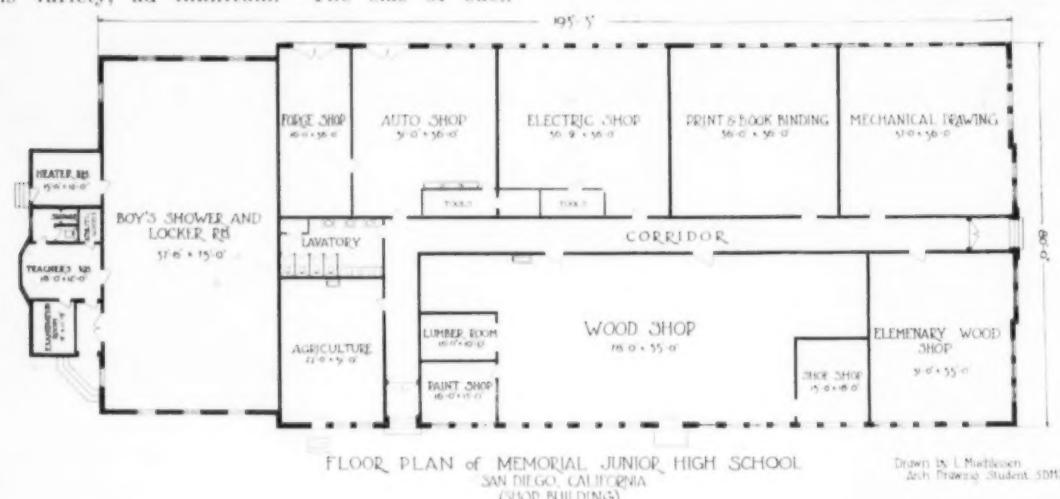
Then the auditorium; that magnificent hall of oratory that generally is used by a few pupils for possibly one or two periods in the day, and is filled to capacity twice in the year! The day of the large auditorium for the average school has gone, and in its place has come the small auditorium seating from four to seven hundred, large enough for general school purposes, ample for community use, at one-third the cost of the old time "whole school" assembly. This does not suggest that the value of an auditorium be minimized, or that it profitably could be omitted, but rather that the occasional use of a large room does not justify its cost.

## Planning Special Rooms

The next point that may well be considered is the planning of special rooms, of which there is variety ad infinitum. The size of such

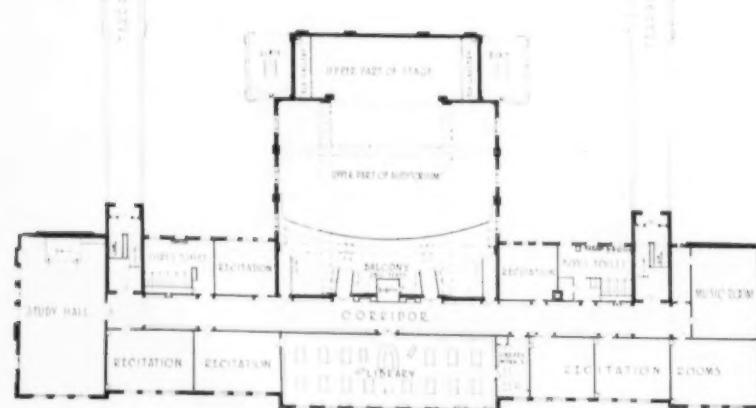
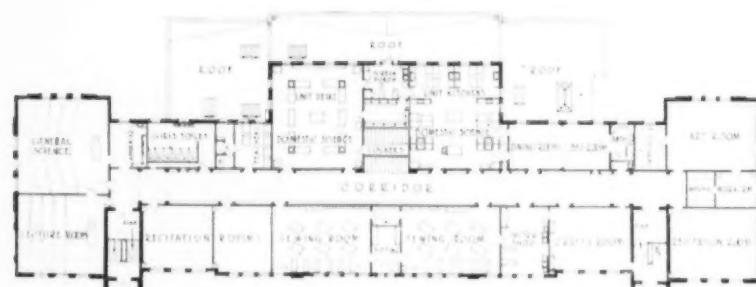


VIEW OF THE MEMORIAL JUNIOR HIGH SCHOOL FROM THE AIR. INDUSTRIAL ARTS DEPARTMENT OCCUPIES THE BUILDING ON THE RIGHT.



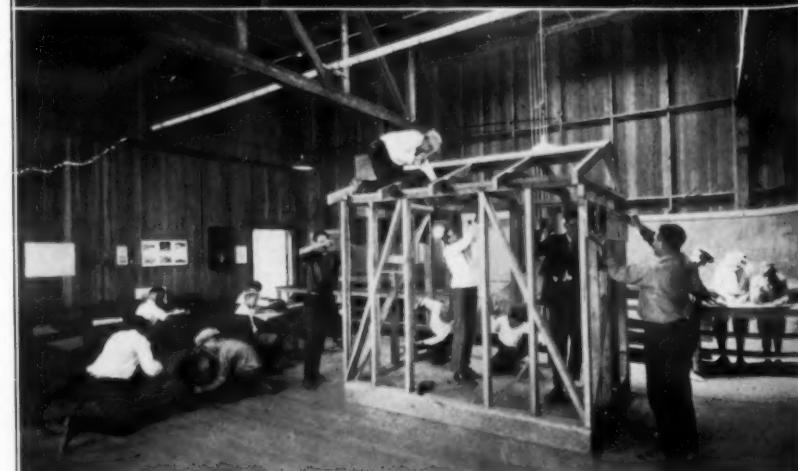
FLOOR PLAN of MEMORIAL JUNIOR HIGH SCHOOL  
SAN DIEGO, CALIFORNIA  
(SHOP BUILDINGS)

Drawn by L. Macleod  
Arch Drawing Student SDMS



**MEMORIAL JUNIOR HIGH SCHOOL, SAN DIEGO, CALIF.**  
T. C. Kistner, Architect, San Diego, Calif.

rooms should invariably be determined by the equipment or working space necessary to each particular purpose. This calls for close co-operation between the educator and the architect. Frequently the architect is told to provide a room of such and such approximate size for some special activity. No attempt is made to lay out the necessary equipment until the building is completed. Then the equipment is installed, sometimes with unfortunate results in cramped working space, but more often with "room to spare". To say that such procedure is unbusinesslike is to use a charitable expression. It would not be tolerated in commercial practice and there is no reason why it should be continued in the construction of school buildings. The only logical method is to prepare layouts of all special rooms before the



TOP—SHOE REPAIRING CLASS AT THE MEMORIAL JUNIOR HIGH SCHOOL,  
SAN DIEGO, CALIF.  
BOTTOM—ELECTRICAL SHOP AT THE ROOSEVELT JUNIOR HIGH SCHOOL,  
SAN DIEGO, CALIF.



MAIN BUILDING, MEMORIAL JUNIOR HIGH SCHOOL, SAN DIEGO, CALIF.

Theo. C. Kistner &amp; Co., Architects, Los Angeles and San Diego, Calif.

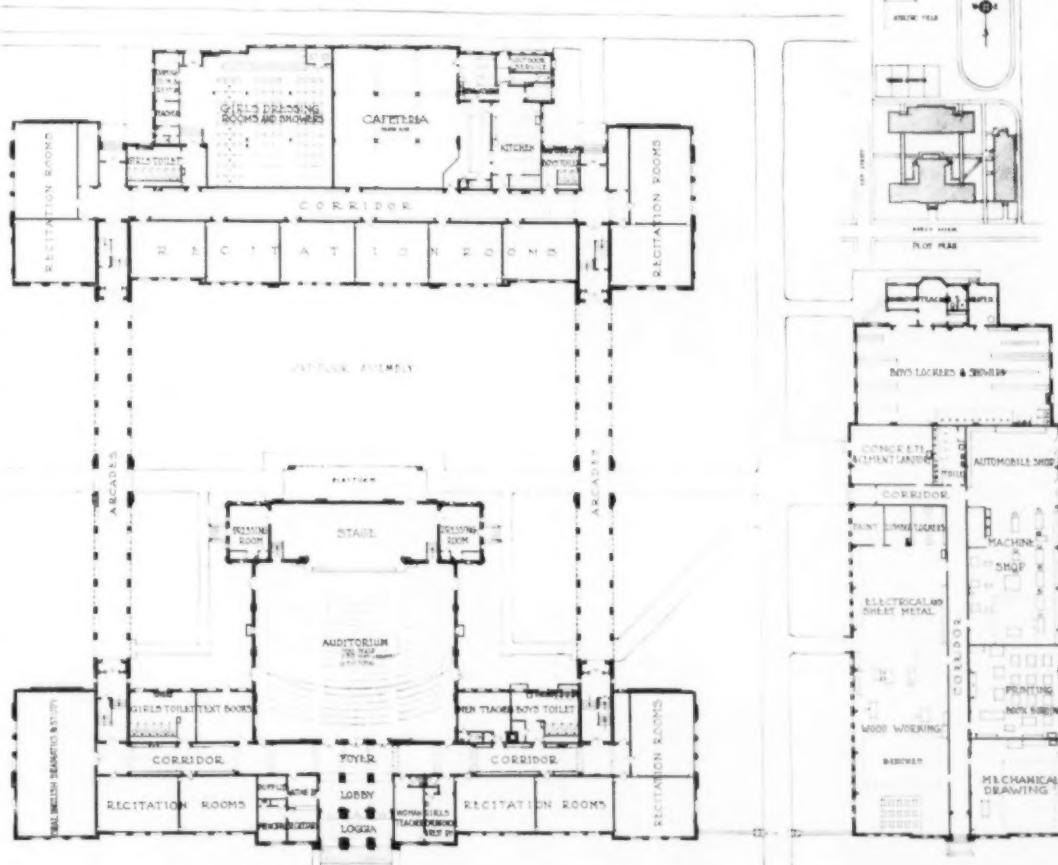
working plans of the building are started. These units may then be assembled in the plan with full assurance that the completed room will exactly fill requirements.

Another factor closely related to building costs is the type of plan or general arrangement. A simple plan always is best from the standpoint of both economy and school organization. Frequently an architect attempts to design an original plan in which an interesting exterior rather than the utility of the building is his chief consideration. Usually such buildings are poor school buildings. For small or medium-sized schools a simple, rectangular type plan is the most satisfactory. Such a building should have a central corridor with rooms on both sides, thus obtaining a maximum percentage of instructional area compared to corridor area. When the size of the building or the restrictions of site necessitate wings, the plan should be developed in the form of a letter U or the letter E, thus avoiding unnecessary internal angles with consequent waste of space. Small excrescences consisting of single rooms projecting from the main building should be avoided because of the proportionately large amount of expensive exterior walls necessary to enclose them. Buildings of the enclosed court type, in which a central auditorium is flanked by small interior courts are unsatisfactory, because of both improper lighting and the unnecessary amount of corridor area entailed by such plans. A further disadvantage of the enclosed court or block type plan is that usually such buildings are difficult to enlarge. If properly designed, the U or E type building may be expanded indefinitely without alteration to the original structure. Flexibility in expansion is one of the essentials of a modern school, both in a small town and a large city.

#### Avoiding the Wasteful Basement

Probably the greatest single improvement of the past ten years in school construction has been the elimination of basements and the in-

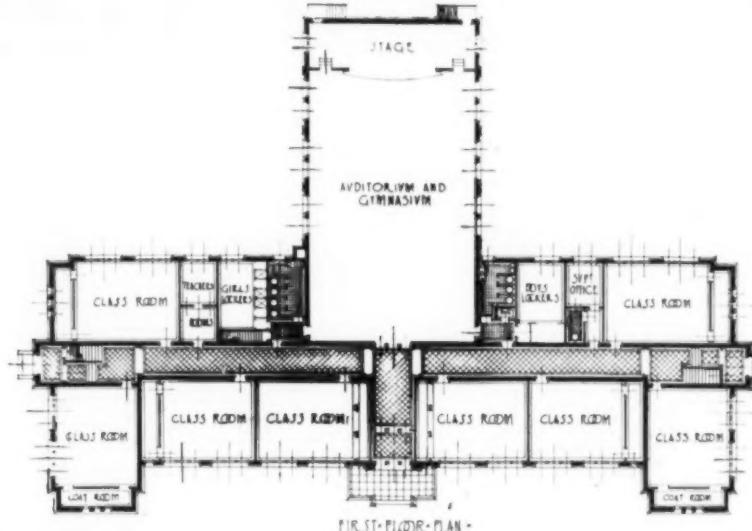
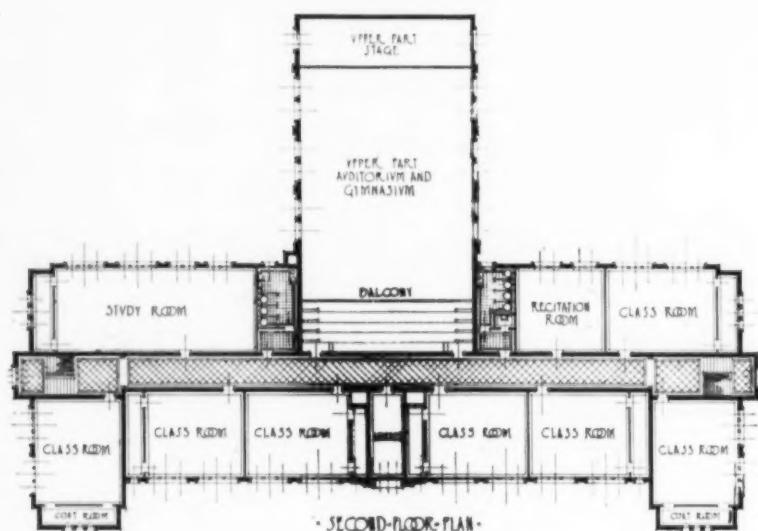
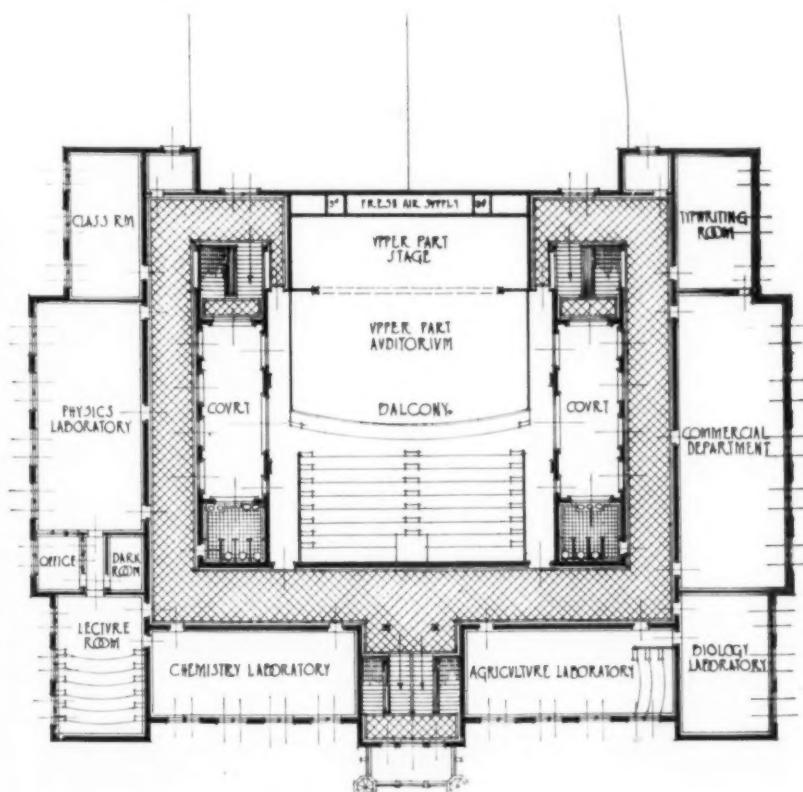
roduction of grade level buildings. Modern standards of lighting and sanitation do not permit the use of basement rooms for classrooms, playrooms, shops or toilets. The only legiti-

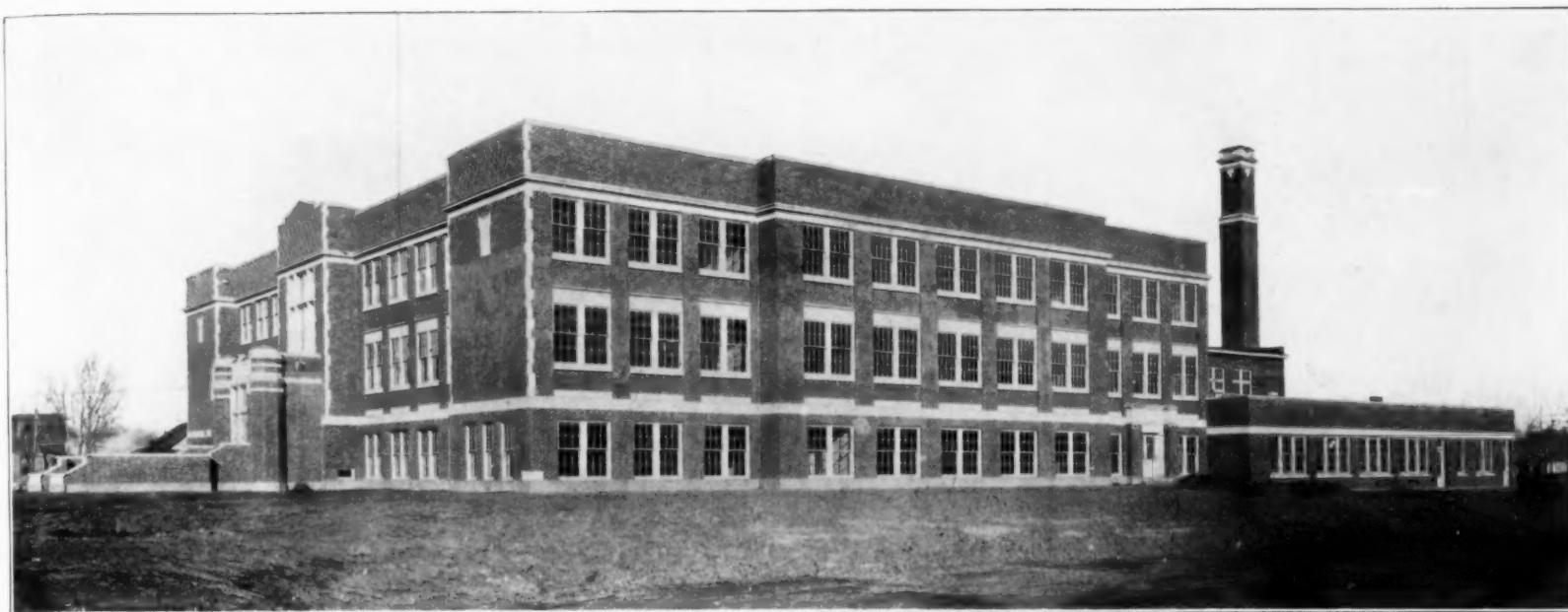
MAIN FLOORS, MEMORIAL JUNIOR HIGH SCHOOL, SAN DIEGO, CALIF.  
T. C. Kistner, Architect, San Diego, Calif.



GRADE SCHOOL, GREYBULL, WYO.

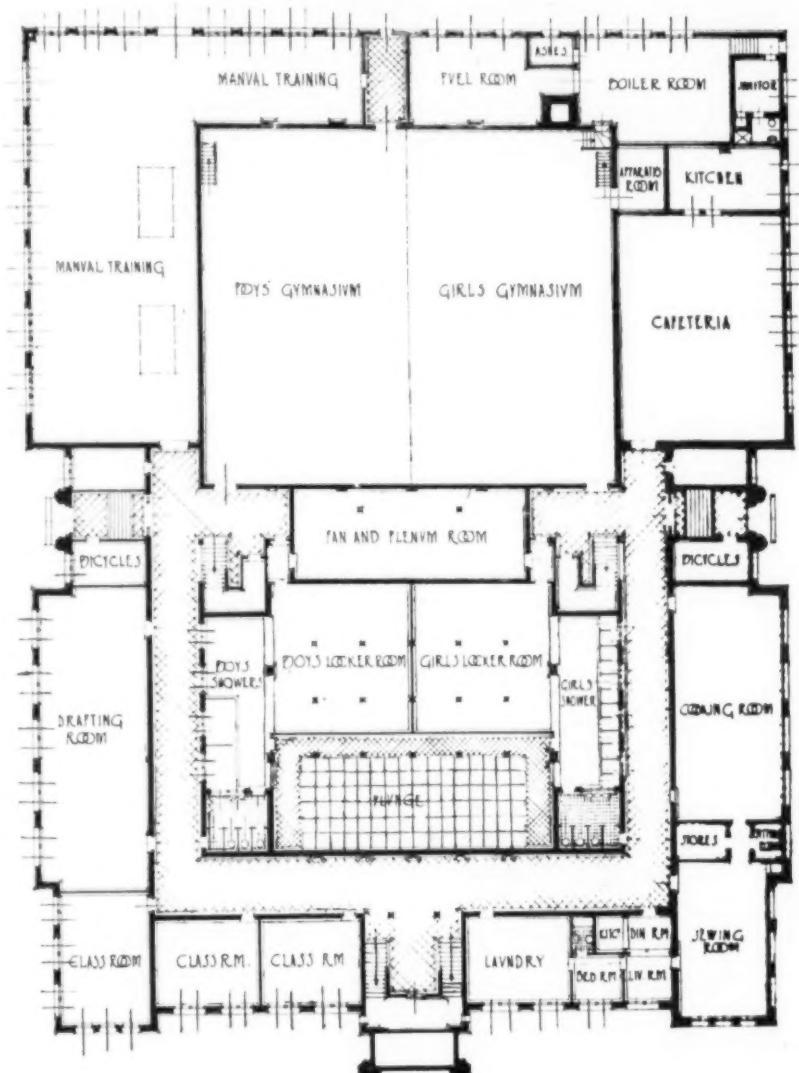
W. A. Dedrick, Architect, Billings, Mont.

GRADE SCHOOL, GREYBULL, WYO.  
W. A. Dedrick, Architect, Billings, Mont.DETAIL OF FRONT ENTRANCE, CUSTER COUNTY HIGH SCHOOL, MILES CITY, MONT.  
W. A. Dedrick, Architect, Billings, Mont.CUSTER COUNTY HIGH SCHOOL,  
MILES CITY, MONT. (See Page 63.)  
W. A. Dedrick, Architect, Billings, Mont.

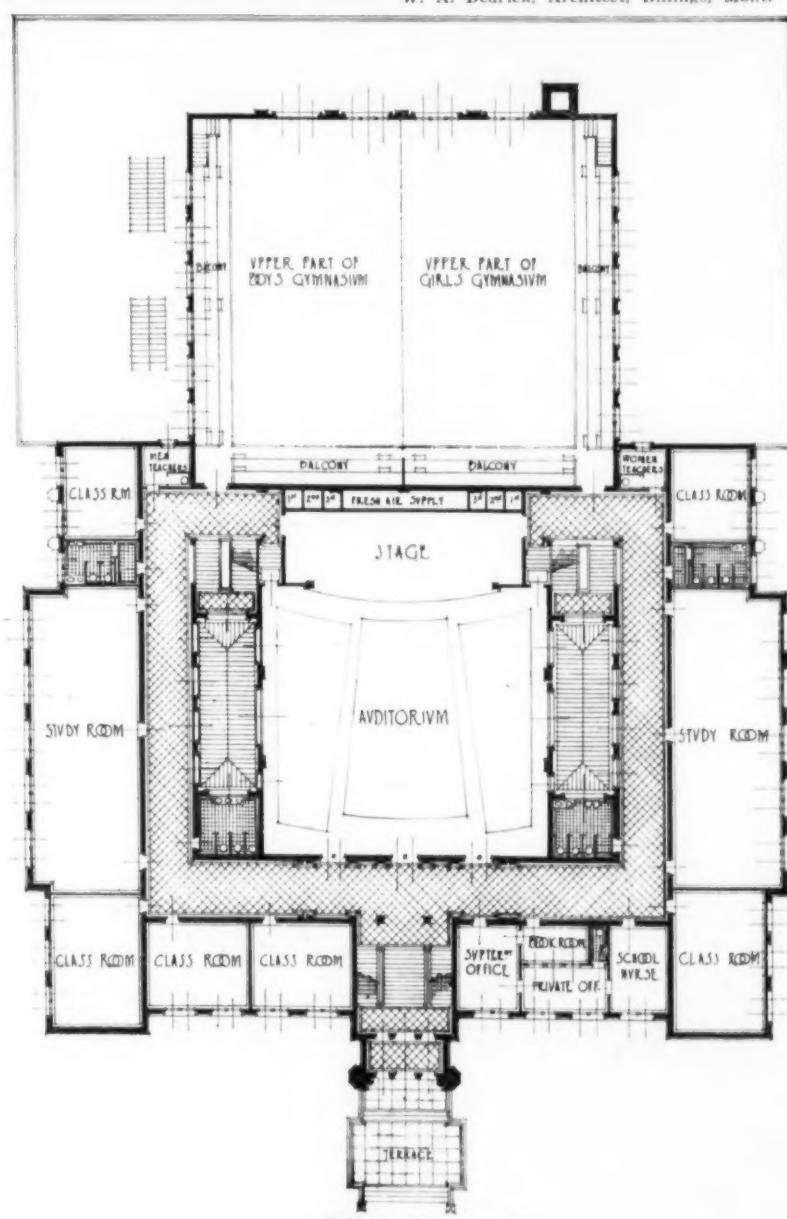


CUSTER COUNTY HIGH SCHOOL, MILES CITY, MONT.

W. A. Dedrick, Architect, Billings, Mont.



• GROUNDFLOOR PLAN •



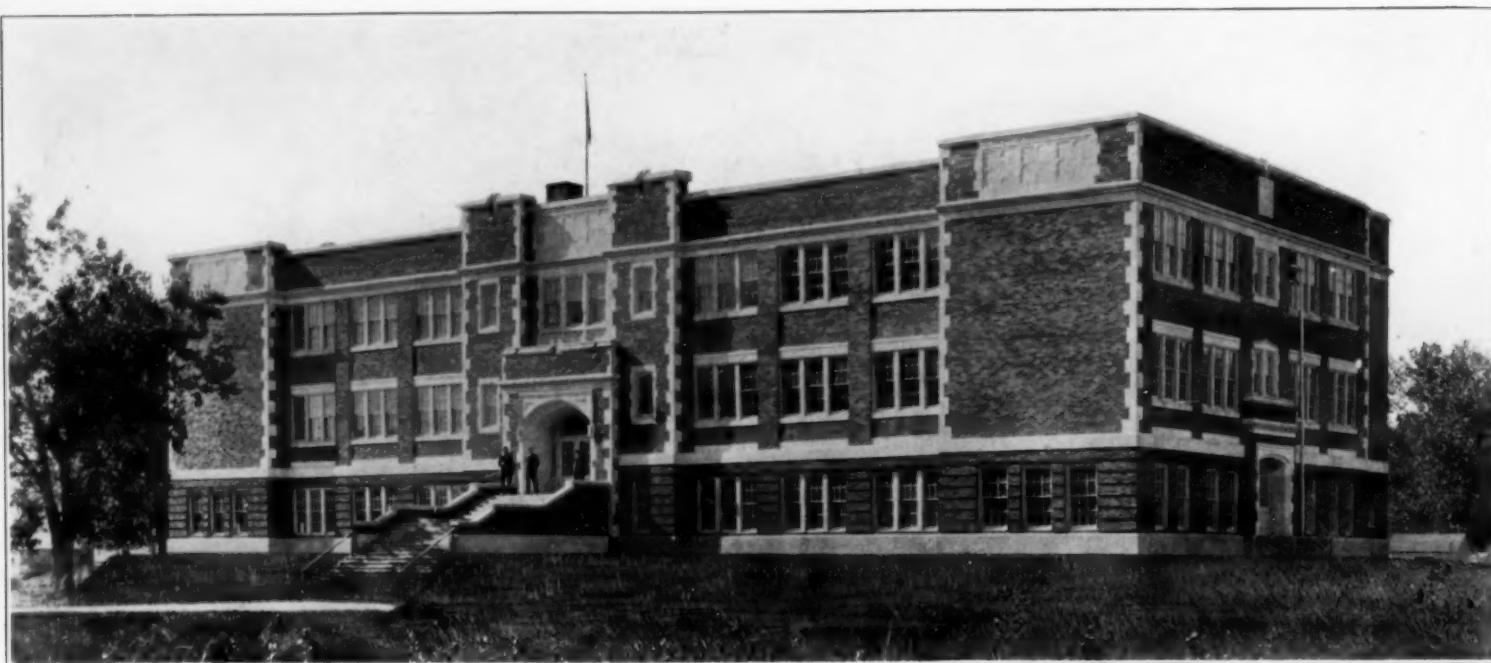
**CUSTER COUNTY HIGH SCHOOL, MILES CITY, MONT.**  
W. A. Dredick, Architect, Billings, Mont.

mate use is for heating and ventilating equipment and for storage. Usually such rooms can be provided entirely below grade by excavating a comparatively small part of the whole building area, thus leaving the entire ground or first floor for instructional purposes. This method of planning has four distinct advantages: First, it is insurance against the use of unfit basement rooms by pupils. Second, it obviates the usual waste of unusable areas in the conventional basement. Third, it does away with

unnecessary entrance steps and stairs, thus reducing the amount of stair climbing by pupils and teachers. Fourth, it results in appreciably lower building costs, both initial and maintenance, because the entire building is reduced in size and this reduction is reflected in a lower contract price and continuous lower costs for heating, ventilating, and cleaning.

Summarizing the factors in economical school planning, the most important consideration is that the educator in charge shall have

complete and accurate knowledge of actual building requirements. Supplementing this, there must be architectural service of a high order, trained in problems peculiar to school buildings, and cooperating with the educator. These two forces working in harmony and animated by the urge for economy, as well as other essentials, should produce good school buildings. The product may not be an architect's dream. It may not include some of the little niceties so dear to the heart of some of our

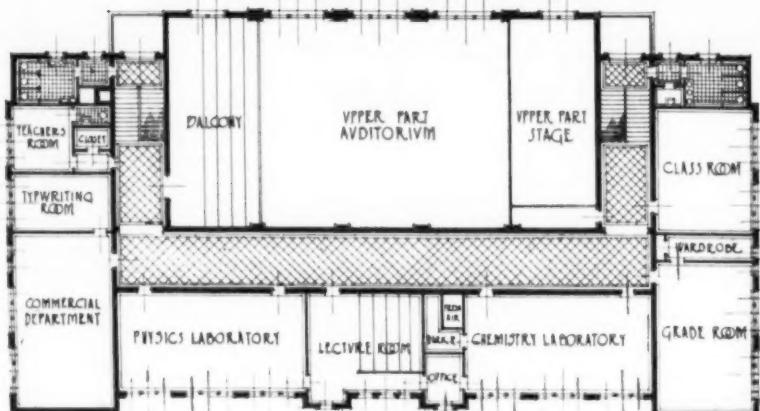


DISTRICT HIGH SCHOOL, FORSYTH, MONT.

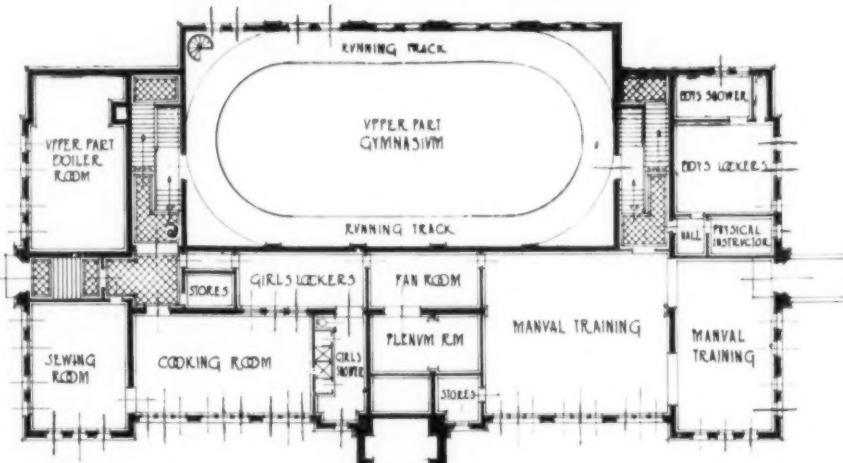
W. A. Dedrick, Architect, Billings, Mont.



• FIRST FLOOR PLAN •



• SECOND FLOOR PLAN •



FLOOR PLANS OF THE DISTRICT HIGH SCHOOL, FORSYTH, MONT.

#### The Memorial Junior High School

The Memorial Junior High School was erected as a memorial to the soldiers and sailors of San Diego who took part in the recent World War. The building is designed in a modified type of English Renaissance. The exterior is finished in stucco and art stone. The construction is of reinforced concrete and tile, with wood floors and with fireproofing in the boiler rooms and other points of possible danger.

The building is heated and ventilated by means of a steam vacuum return system, installed at a cost of \$2,929. The building is equipped with a standard program clock, intercommunicating telephones, steel lockers, Venetian window shades, slate blackboards, built-in wardrobes, and standard library classroom and shop furniture. The building has a total pupil capacity of 1,200 and an auditorium seating capacity of 946.

The building cost \$350,000 or \$291 per pupil. On the basis of the cubic content, the cost was 21.5 cents per cubic foot. The architect is Theo. C. Kistner, San Diego, Calif.

#### The Roosevelt Junior High School

The Roosevelt School is a junior high school and is designed in a modified Southern European style of architecture. It is built of reinforced concrete and tile, with wood floors and with a fireproof boiler room. The exterior finish is in stucco and art stone, with a felt and gravel roof and some tile. The building has a total pupil capacity of 1,200 and an auditorium seating capacity of 946.

The building cost \$345,000 or \$287 per pupil. The cost per cubic foot was 19.9 cents. The building is heated by a vacuum steam system, installed at a cost of \$12,900. The architect is Theo. C. Kistner, San Diego, Calif.

specialists, but it will be real honest-to-goodness schools; good to look at; workable to the *n*th degree from the schoolman's point of view, and *very, very* satisfactory to the taxpayer's pocketbook.

#### NEW SCHOOL BUILDINGS IN SAN DIEGO, CALIFORNIA

We are publishing this month a group of most interesting recent school buildings in San Diego, Calif., and are indebted to Mr. Edwin B. Tillon, assistant superintendent of schools, for the following information concerning the respective structures.

##### Point Loma High School

The Point Loma High School is the newest secondary building in San Diego and is designed in the Spanish Colonial style, typical of California. It contains 60,000 square feet of floor space and is built with concrete girders and brick walls. The construction is fire-retardant and the boiler room and other points of possible danger are fireproofed. The exterior finish is stucco and the roofs are tile.

The building is heated with a steam vacuum return heating and ventilating system. The building is equipped with the best type of sanitary toilets and drinking fountains. It is also completely equipped with a standard program clock and intercommunicating telephones, and steel lockers and Venetian windows.

The classrooms and shops are equipped with the latest types of furniture, etc. The building has an electric fire alarm system and spiral enclosed fire escapes.

The building is designed for 750 pupils and cost \$290,000. On the basis of cubic content the cost was 27.3 cents per cubic foot and \$387 per pupil. The architect is Edwin T. Banning.

## The Story of a Great Publishing House

Fortieth Anniversary of D. C. Heath and Company

The story of an old publishing house is never without a certain charm. The records which have within the year come to us of old English publishing houses were most interesting. They tell of the men who bring the author's productions to the service of a reading constituency and sometimes give us a glimpse of the publisher's own ambitions and trials.

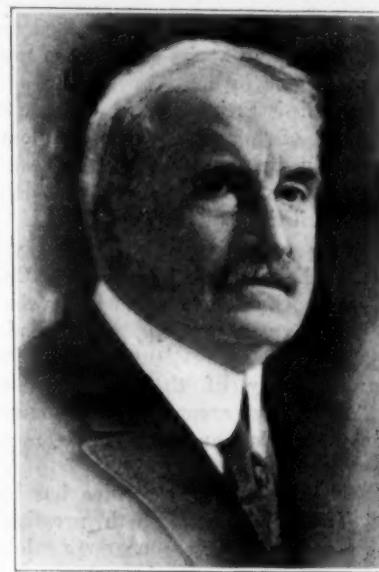
The American publishing houses, less old perhaps in years, yet more enterprising and rapid in expansion, have a story of equal charm and interest. The firm of D. C. Heath & Company is about to celebrate its fortieth anniversary. Its humble beginning, its constantly widening contribution to the educational literature of the land, and its present high standing as a publishing house constitute a story that expresses the elements of romance and constructive achievement.

D. C. Heath & Company was founded in 1886 by Daniel C. Heath, whose first office was in Tremont Place, Boston. The name chosen by Mr. Heath for his firm was D. C. Heath & Company, which name has continued until this day. Mr. Heath's first partner was Charles H. Ames, who was admitted to the firm in 1888. His second was William E. Pulsifer, who joined the Company in 1889. Dr. Winfield S. Smyth, who had been Ginn & Company's Chicago manager, was taken into the firm of D. C. Heath & Company in 1893. In 1895, the partnership sold its business to a corporation organized in that month, of which Mr. D. C. Heath was made president, Dr. Winfield S. Smyth, vice-president; William E. Pulsifer, treasurer, and Charles H. Ames, secretary. Mr. Heath died in January, 1908, and Dr. Smyth in August, 1908.

After Mr. Heath's death his trustees, Herbert C. Foss and E. G. Cooley, who for some time had been superintendent of schools in Chicago, carried on the business for two years, when Mr. Heath's stock was purchased by William E. Pulsifer, Winfield S. Smyth, Jr., W. H. Ives, James C. Simpson, Isaac Van Houten, Frank F. Hummel, and others who bought a few shares of the common stock. In 1910 the corporation elected as its officers, William E. Pulsifer, president; W. H. Ives, vice-president; Winfield S. Smyth, treasurer, and Charles H. Ames, secretary. Mr. Ives soon retired and in September, 1911, Mr. Ames died. The present officers of the Company are William E. Pulsifer, president; Winfield S. Smyth, vice-president and treasurer; Frank F. Hummel, secretary; E. C. Hills and Dudley R. Cowles. Mr. S. Willard Clary was the editor-in-chief of the modern language department for 27 years, and Dr. Charles Henry Douglas has been the editor-in-chief of the general list since 1895.

When Mr. Heath retired from the firm of Ginn & Heath, he was paid for his interest partly in cash and partly in books. Among the publications which he received from the Ginn & Heath list were Remsen's Organic Chemistry, Shaler's First Book in Geology, Ybarra's Practical Method in Spanish, Sheldon's Short German Grammar, Hall's Methods of Teaching History, and Mitchell's Hebrew Lessons. There were altogether 24 bound books and several manuscripts, including those prepared by Mary Sheldon. Mr. Heath's first publications were Sheldon's History, the Joynes-Messner German Grammar, and several French and German texts purchased from English and Scotch publishers and republished by him.

D. C. Heath & Company has acquired by purchase from Leach & Shewell and added to its list the Wells series of mathematics for secondary schools and colleges, a number of Latin texts and textbooks from the University Publishing, Thomas' History of the United States



WM. E. PULSIFER,  
President, D. C. Heath & Co.,  
New York City, N. Y.

from a Friends' Society known as The Textbook Association of Philadelphia, Bancroft's School Gymnastics from Kellogg & Company of New York, Bowser's algebras, geometries, and trigonometries from Van Nostrand & Company, and the American rights in what is now known as the Arden Shakespeare from Blackie & Son, Limited, of Scotland.

During its forty years of publishing, D. C. Heath & Company has issued many notable books. Among these are Lawrence's International Law, Grabau's Geologies, Dr. Remsen's Chemistry, Gildersleeve and Lodge's Latin Grammars, the Joynes-Messner German Grammar, the Fraser and Squair French Grammars, Hills and Ford's First Spanish Course, Charles Elliott Norton's Heart of Oak Readers, 48 volumes of Old English classics, Mary Hyde's Elementary English Books, the Arden Shakespeare, Walsh's Arithmetics, Webster's Histories, the Manly-Bailey-Rickert Language and Grammar, etc. During these forty years, D. C. Heath & Company's business has grown enormously. Its books have found a market in very nearly every country of the world.

We recall a day, three decades ago, when four splendid men, Heath, Ames, Smyth, and Pulsifer, who were progressive educators and enterprising business men combined, personally guided their publisher's ship on the sea of American education. They were always enthusiastic, always energetic, always constructive. Their ideal was merit; their goal was service.

Of the four men, William E. Pulsifer is still at the helm. He is still vigorous and holds high the traditions of his associate founders of the enterprise. His idealism has not only found expression in the fostering of a great publishing enterprise, but also in a series of civic and social movements with which he has been identified. He has earned the distinction, among those who know him best, as being a most highly useful American citizen. No higher distinction can come to any man.

## Washington Correspondence

A. C. Monahan, Formerly U. S. Bureau of Education

full list and not alone on the eleven tabulated here.

For comparative purposes there are tabulated the prices in January, 1925, and the prices in July, 1925. On the whole, there is little variation either upward or downward. Common bricks which had been unusually high in New England dropped from \$30 to \$25 per thousand at New London and other New England points. Bricks at other points remained approximately the same, varying from \$13 per thousand to \$25 per thousand in different localities.

Cement remained firm on the whole. The rise in Buffalo brought it to the same level as the majority of cities listed; at Shreveport a drop is noted.

The price of common boards per thousand varies greatly in different parts of the country, (Continued on Page 70)



AUDITORIUM, WASHINGTON, D. C., WHERE THE DEPARTMENT OF SUPERINTENDENCE MET IN JULY.



# THE AMERICAN School Board Journal

WM. GEO. BRUCE } Editors  
WM. C. BRUCE }

## EDITORIAL

### CHARGING SCHOOL BOARDS WITH PLAYING POLITICS

The complaint which is lodged against the school administrative factors with greater frequency and vehemence than any other is commonly expressed in the one word "politics." A school board that has run counter to public opinion, or has displeased certain persons or groups, is usually charged with playing politics. The term is a convenient one because it permits a multitude of sins of omission and commission to be designated under one denunciatory term. When the phrase "playing politics" is hurled against a school board, it is implied that intrigue and selfish methods are employed. Certainly it is not here intended to use the word "politics" in its higher and better interpretation. An evil is meant.

In every group of men and women there are those who have the faculty to lead, and to lead wisely. But, too frequently there are those who aim to dominate and in attaining their object build up a majority following. Unable to lead by the sheer force of intellect and the power of debate, they resort to manipulation instead.

Majority groups can be constructed, and the majority voice is all powerful.

And, it is under the accepted dictum of a majority rule that some of the most daring wrongs have in recent months been committed. If the majority has reached its conclusions in a regular manner, the minority cannot complain and must submit. But, some of the charges made against school administrative bodies is that they have not proceeded in regular manner to reach conclusions. Instead of carrying on their deliberations in open debate, permitting a whole board to voice its views, and thus sift out the most desirable and acceptable, there has been a tendency to resort to secret conferences for the purpose of building up an invincible majority. It is not going too far to hold that there is a tendency in many communities for a school board majority to weld itself into a fixed institution and has, as expressed by an Ohio newspaper, become "a reign of terror for the least displeasure incurred by school attaches has meant their heads."

The same newspaper adds: "We do not believe that the taxpayers are in accord with the 'public be damned' policy that has obtained in our school affairs since the last election. The schools are too vital an institution to be used for the grinding of personal axes and the majority members should be made to understand this."

In the cases which have come to our attention, and which have created much dissatisfaction in their several localities, all open debate had been discarded. The majority crawled into retirement, formulated its plans and policies, and then came into the open board to arbitrarily vote down the minority.

Methods of this character cannot be countenanced. The American system of school admin-

istration has become strong because it has been built upon a sound public opinion. That opinion contemplates open debate and fair play. The public wants to know by what process of reasoning final conclusions are reached and represents the thought that its affairs are manipulated in secret conclave.

School administrative bodies cannot escape the complaint of "playing politics" unless they legislate solely in the interest of the charge entrusted to them and carry on their deliberations in the full light of the day.

### STABILIZING TEACHERS' AGENCY METHODS AND ELIMINATING ABUSES

There was a time some years back when the teachers' employment agency, which had then become a recognized institution, came under the sharp scrutiny of the American school public. Abuses had crept into the manner of conducting agencies and corrective measures were inaugurated.

Since that time the agency idea has become stabilized and has gained both prestige and recognition. Most of the men engaged in the teacher employment service have always adhered to honorable methods, but, as is found in every other calling, some one resorts to abuses with the result that a whole system is condemned. The sins of the one who is guilty are charged against the many who are innocent.

Suffice it to say that the teacher placement business has been established upon an honorable basis, whether conducted under private or public auspices, and is entitled to the confidence it now enjoys. It performs a definite service to the educational cause of the country and one which is generally recognized by the school public.

But, there is the occasional newcomer into the teacher placement field who, in a desire to outwit his competitors, will resort to reprehensible methods. One of these recently circularized the superintendents of the southern states in which he made the following startling offer: "Our plan of cooperation is this: We charge our teachers five per cent of the yearly salary for placement, and we share this equally with you for offering the vacancy."

What does that sort of an offer imply? To say that it is unethical is to put it mildly. To be more plain and direct, would be to say that it is a suggestion that the superintendent create more vacancies in order that he may share in the commissions offered by the promoter.

In the medical and legal professions fee-splitting is entirely prohibited, and in the field of education it is safe to say that no school executive would for one moment think of accepting a fee of the kind indicated any more than he would think of accepting a fee from a publishing or school supply firm.

The proposal made by the teacher placement bureau in question proceeds upon the supposition that the school official is susceptible to that sort of a compensation, which cannot be construed into anything less than an insult to the profession it seeks to entice.

The modern school executive resents any attempt on the part of any one to lead him from the path of honor and duty, or to assume for one moment that he is susceptible to unethical methods.

### CONTRACT MAKING AND BREAKING IN SCHOOL ADMINISTRATION

Every autumn the complaint is heard in the rural districts that teachers who signed up for the year failed to make their appearance simply because they had signed up elsewhere at a better figure. Breaches of this character not only cause embarrassments but lead to a vindictive attitude on the part of those entrusted with the employment of teachers.

The educational associations have combated the evil with energy and have made it plain that a high sense of honor must guide the professional worker in all the relations of life. Thus, the breaches wherever they occur are individual and cannot be charged against the profession as such.

When we denounce the individual teacher who has manifested a grievous disregard for the terms of a contract it may be well to look around and see whether school boards, as such, have not been equally guilty. And here we find that the violations are not entirely confined to one side of the house.

Cases have arisen within the year where school boards have cancelled contracts without proper cause and have in consequence been called into the courts to answer for their action. In one instance, a newly elected board of education inaugurated a clean sweep policy which meant that they must oust the superintendent of schools. The fact that he had been elected by the previous board for a term of three years, and still had two more years to serve, did not disturb the new board. The superintendent was fired.

But a court of law took a different viewpoint. It pointed out that there is something binding about a contract, and that a contract made by one board must be respected by the successive body.

Similar cases, some of which did not get into the courts might be recited. One newly elected school board in a western city dismissed the superintendent simply because it wanted a new man. The old board had its superintendent, why should not the new board also have the privilege of choosing a new superintendent. But, timely counsel came to the aid of the school board. The fired superintendent was re-hired before the mixup could reach the courts.

Escapades of this sort, which grow out of prejudice and a lack of circumspection, have their humiliating results. A board of education that on an issue is beaten in the courts, or that must reverse its policy simply because it was a mistaken policy is bound to suffer in prestige.

The danger usually arises when new men on the board before they have familiarized themselves with their new surroundings and the real situation, allow the busy bodies of the town to stampede them into hasty action.

Again, it is well to remember that contracts may be terminated upon the conditions named therein, but that they cannot be arbitrarily violated or broken.

### THE SELECTION OF A SCHOOLHOUSE ARCHITECT

The correct method of choosing an architect for the planning and construction of a schoolhouse has been discussed in this publication so repeatedly that further comment would seem superfluous.

But, the controversy between the choice of an architect pops up with surprising regularity, and then it is the old story over again, namely, a contest between local talent and an experienced architect who happens to live elsewhere. Some one kicks up a row and tells the school board just where to get off at.

Those who are inexperienced in what has become an approved method of proceeding to the creation of a schoolhouse will propose the competitive plan. And what does the competitive plan mean? An array of colored pictures of perspective drawings, and sets of floor plans, a few glib speeches before the board members by competing architects, and then a vote. The prettiest picture and the happiest speech wins the day.

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Through years of experimentation it has been learned that on the one hand the dress pattern type of school plans are not serviceable and that on the other the competitive submission of plans does not lead to the best results. While certain standards applied in detailed parts have value, every school building of six or more rooms has its special problems. These not only grow out of site considerations, but also out of the special as well as the general uses of the building.

In a Virginia city recently a citizen's protest meeting was held because the local board of education has chosen an architect on a non-competitive basis instead of a set of plans on a competitive basis. The action of the board was ably defended by a citizen of high standing who advanced the arguments in favor of the one method as against the other, but the aggrieved community would not be pacified. Neither the press nor the public were convinced that the school board had acted wisely in securing the services of an architectural firm experienced in schoolhouse planning. Local talent had been ignored and the pride of the town was stung.

Architecture has become so highly specialized that the planning of a theater, church, hotel, school, factory or office building is no longer the task of the all-around local architect whose experience is confined to the building of homes. Nor would the architect who specializes on theaters or office buildings attempt to construct a modern school building.

And yet the editor of the local newspaper cries out in a spirit of protest and says: "We have never tried to explain why it is that the members of the school board, all of them taxpayers, should be willing to see the city mulleted in this large sum which might be saved by pursuing the only reasonable, sensible, fair and just course possible in such matters. We have not the faintest idea of the mental process by which a majority of the school board reached the conclusion that the non-competitive plan depriving local architects of all possibility of making the junior high school plans was in the interest of the tax-paying public. The members of the school board are good men and women, but they cost a lot of money—taxpayers' money."

Experience has taught that the most expensive schoolhouse projects have been those attempted by men who have no familiarity with them, and that the selection of a firm trained in that type of buildings proves in the end most economical and serviceable.

#### THE FACTIONAL MAJORITY IN SCHOOL ADMINISTRATION

It has long been the custom of deliberative bodies in government to divide themselves into the so-called right and left sides of the house, into conservatives and progressives, and into groups representing the prevailing shades of political contention. Under such a plan, every legislative measure is weighed and dealt with in the interest of party prestige and expediency rather than in the light of true merit and service to the public. Political parties espouse certain principles and policies, and in keeping with these, accept or reject the measures that come before them.

While the partisan idea in the creation of school boards prevailed in the earlier history of the country, it has been constantly lessened, until today no one would seriously espouse it. The nonpartisan plan has taken its place. The bipartisan idea, however, still prevails in many communities, but even here public opinion no longer tolerates the disposition of school affairs on purely partisan lines.

And yet, it is a peculiar phenomenon in American school administration that even where the partisan idea has had nothing to do with the creation of the school board, its members are formulated into majority and minority

groups. Thus, the public press frequently refers to the fact that the majority group has decreed to do thus and so, or that the minority leader proposes this or that line of attack.

The solidarity implied in an established majority, namely, the formation of a group or faction, cannot in the nature of things serve the best interests of the schools. We cannot conceive of a series of deliberations and conclusions that would always find the same names on the aye side of a question and another group on the nay side.

If individual opinion and independence count for anything, then the majorities and minorities will vary with each measure and in accordance with the judgment of those who cast their votes. A fixed, immovable group or bloc can only mean a form of solidarity which invites contention.

To oppose a measure because it was advanced by the "other crowd," or to support a measure because it was proposed by "our crowd," cannot in the end lead to satisfactory results. Nor does such a course merely establish clique rule, and thus undermine the best traditions of representative government, but it hinders that progress to which all school administrative bodies are committed.

No man or woman should sit on a board of education as a Republican or a Democrat, as a representative of the better residence section, or the slum district. Representation must foster the interests of all, high or low, rich or poor. All political and class distinction must fade and give way to that one sole interest, namely the educational welfare of the child.

The strength of the board of education, as exemplified in the United States, and which has not its exact counterpart anywhere in the world, must be found in the highminded, impartial and unselfish policy employed in reaching adjustments and conclusions. Such a policy does not permit of fixed majorities or cliques whose sole ambition is to control, but is guided by a majority and minority vote which divides itself along lines of an uninspired, deliberate and independent thought and judgment.

#### THE STATE PUBLICATION OF SCHOOL BOOKS

There is scarcely a state in the Union that has not at some one time had under consideration a legislative measure which calls for the publication of school books by the state. But, in each instance the scheme was dropped. Only two states, California and Kansas, were rash enough years ago to engage in such a hazardous project, and since then every state that has had the question under consideration has decided against it.

Recently in Georgia the question came up for the second time. Those who promulgated the scheme apparently did not remember clearly why the legislature voted the project down



eleven years ago. A commission had been appointed which gave the subject exhaustive study and made a report, the concluding paragraph of which reads: "First, compared with the prices paid for similar books in other states in this country, the cost in Georgia is not only reasonable, but actually considerably less than the average paid in the other forty-seven commonwealths of this union. Second, the California plan, which involves the purchase and equipment of a printing plant, managed by state officials, for the purpose of printing state school books, does not appear to be desirable for Georgia."

It was found, too, that the educators through the country were opposed to a state textbook publishing scheme. Among the best discussions of the subject at that time was one by Dr. Otis Ashmore, then superintendent of the Savannah schools. Dr. Ashmore said:

"As a citizen and a taxpayer, I am strongly opposed to the state publication of school books. From a business point of view, I believe it is impracticable. As an educator the plan appears to me as narrow, unwise and hurtful to our schools. We may safely leave the publication of our textbooks to that competition which develops the best in authorship, in mechanical work, and in price, and to these conditions where only the fittest can survive. I cannot believe that our legislators will seriously consider the investment of such a large amount of public funds in a scheme that has proved a failure wherever it has been tried, and which is certain to prove a failure in Georgia if adopted. We ought not to spend a dollar on so doubtful a plan. America today has the best textbooks in the world, and the prices are reasonable. The broad, open policy of competition, which is the safe and legitimate principle of business, has made this possible; and without doubt it will continue to develop the best results in textbook making, and save the state from narrowness, from political corruption, and from a woful waste of public funds."

This covers the case so completely that little more need be added. Where once introduced it is surrounded by a breast work of office-holders that will thwart its abolition. Besides, a state that has once made the investment does not feel inclined to scrap it again. Experience has taught, however, that a competitive school book business, such as we have in this country, makes for efficient authorship and reasonable prices. Nor is it in keeping with the American spirit to have the state engage in competition with private enterprise.

—Apropos of long summer vacations for courts and schools, the Chicago Tribune remarks that the custom is a relic from the time "when we were an agricultural society which must devote itself to the importable demands of nature. When the harvest was in, there was time for learning and the pleasures of litigation so dear to our forebears."

It is difficult to understand objections raised against summer terms. Cities which have special classes intended to give students an opportunity to even up deficiencies and failures, universally report a high percentage of successful work. Pupils and teachers seem to put forth better efforts than during the regular school year. The universities and teacher training institutions conduct summer courses which are growing in size at an enormous rate. These courses are the most effective means of promoting the growth of teachers in the service.

The problem of making summer sessions—or rather all-year schools—effective is one of organization, of study and session programs adjusted to hot weather, of general adaptation to eleven or twelve months' work. The American educator has solved other problems; he can solve this one.

## The Open Door in Education

Frank D. Boynton, Superintendent of Schools, Ithaca, New York

It would be interesting to know how many parents, in these anxious weeks preceding the opening of our colleges, are asking with a pathetic sense of helplessness, "Will my child be debarred from college?" A few short years ago, our colleges were asking for more students, and to this call the schools responded. If our colleges this fall follow the present academic fashion, thousands of high school graduates will be denied admission.

And the tragedy of it will be that, of these boys and girls to whom the door of opportunity will be closed, thousands will be as worthy, as well trained and as competent as the more fortunate thousands who will gain admission. For the method of selection employed, is, considering the fact that it is used by institutions whose function it is to train intelligence and make it effective, strangely unintelligent. Only in rare cases will anything except "Scholarship," as indicated by the ability to meet traditional requirements through the accumulation of a certain number of arbitrarily determined "units," have anything to do with the matter. In face of even a fractional lack of "units," evidence of more imponderable, though certainly equally valuable qualifications—qualities of leadership, fine personal traits, character qualities of industry, honesty, purposefulness—will avail little.

### The Colleges Overcrowded?

Our colleges tell us that they are overcrowded; that too many are going to college; that they are overburdened with dead timber for whom the colleges can do nothing. Granting that some are attending college who cannot benefit by it, the remedy would seem to lie in devising some more intelligent method of selection; and it is encouraging to note that some of our colleges have set themselves earnestly to the difficult task of finding other more equitable methods of measuring the fitness of the candidate than that of mere scholarship along traditional lines, important as scholarship is admitted to be. In general, however, it is still true that our colleges are trying to meet the situation merely as a more ruthless application of the old requirements arbitrarily determined—vainly, it would seem, since, in spite of their rigid application, college faculties continue to complain as bitterly as ever of the inferior quality of the student material.

Beyond a doubt, some of our colleges are crowded; but by no means does it follow that too many are going to college. As a matter of fact and as a matter of justice, the number attending college will and should double and treble. And this increase in attendance must go on until no worthy applicant for admission will be denied his chance for the benefits accruing from higher education. As President Angell of Yale says: The complaint that too many are being educated emanates in part from those who foresee a shortage in cheap labor. Where over-crowding is due to public appreciation of the character of the courses offered, to the grade of instruction given, and the human interest of the instructing staff, it is a cause for congratulation rather than complaint; and the remedy is to be found in increasing the resources of such institutions commensurate with the demands made upon them.

### A Standard Suggested

But this assertion of over-crowding has become so almost universal among our colleges as to raise a question in the public mind as to whether it may not be a "fad" or a "frill" of college administration. The thousands of excluded candidates and their parents are beginning to ask whether it is true that practically all of our colleges have exhausted the possibil-

ties of their equipment and instructing staffs; whether the large classes which are pointed to as proof of over-crowding prevail generally as a matter of necessity, or whether they occur only sporadically and as a matter of professorial convenience. So serious has the situation become, so many are the homes that have been saddened, so many are the deserving young people of ability who have had their life plans changed by this "exclusion act" on the part of our colleges, that studies have been undertaken with a view to determining the facts and setting, if possible, some sort of standard.

How many students should a college teacher represent? This is a question that has never been scientifically determined, and yet it is the crux of the whole matter. For the elementary schools it has been scientifically determined and the standard has carried over into the secondary school. Approximately thirty pupils for each teacher is the goal that has been set up, though practically never reached. Many a teacher in schools of these grades the country over represents forty or forty-five and in some sections fifty pupils. For the colleges, two published statements may be cited. President Snavely of Birmingham-Southern College in *School and Society*, June 13, 1925, sets the number at fifteen students for each member of the teaching staff. The American Council of Education in its published report for 1924, sets the number at twelve and one-half students per teacher, and sixteen hours of teaching *per week* as the standard.

### A Suggested Low Load

President Snavely mentions certain colleges several of which have found it necessary to limit the number of their students. Taking President Snavely's standard of measurement and applying it to the college mentioned in his article, just 4001 more students can be accommodated by them than they now have. Similar studies of some of the colleges in three states where I am to continue the discussion of this question which I began at Cincinnati last February, reveal the fact that twenty-seven colleges at an average of twelve and one-half students per teacher can take this fall 12,300.4 more students than they had last year without the addition of a single classroom or of an instructor, notwithstanding that some of these have announced limitation of numbers as a necessary policy. The study is not yet complete for all of the colleges of these three states, so it is impossible to say how many other thousands might be received before the saturation point is reached. It will be hard to convince the public that twelve and one-half or fifteen students per college teacher is an over-load or that sixteen hours of teaching *per week* is over work; and yet, we are not in sight of even these goals, low as they appear while limitation goes on apace.

Of course, neither our colleges nor our schools should be overcrowded; neither should capable, worth-while, well prepared high school graduates be denied the advantages of high education. A knowledge of the facts, scientifically determined, is a pre-requisite for a just solution of this double headed problem. A fair and impartial survey by representatives of the public interest will alone settle this controversy. Parents will not and should not indefinitely submit to a situation that is as unnecessary as it is unjust.

### The College's Duty

Our colleges are for public service, not self. In this country, education, like the war and navy departments, is for defense. No American educational institution of whatever grade

or wherever located, was founded or endowed or placed in the tax budget for the benefit of those whose names for a time appear upon the payroll. This fact has yet to be learned. How much longer shall we submit to a needless situation and from lack of authentic scientific information continue to permit the future of thousands of American youth annually to be blighted by this slamming in their faces of the door of opportunity without giving them the courtesy of an impartial hearing? This is the question; and it is one of the very greatest in American education today.

**GEO. N. SLEIGHT**  
Secretary, Board of Education,  
Ironwood, Michigan

No man in Michigan has had a longer achievement in public school work as a member of the board of education than has George N. Sleight, secretary, business manager, and member of the board of Ironwood for twenty-two years.



**GEO. N. SLEIGHT,**  
Secretary, Board of Education,  
IRONWOOD, MICHIGAN.

Mr. Sleight was born in Johnstown, New York, in 1822. He has lived in Ironwood for thirty-six years and before taking up his work on the board of education, was engaged in business in the city. He has seen the Ironwood school almost completely housed in new and modern buildings since he took up his work. Within the past ten years, four buildings, both elementary and high school, have been built in Ironwood at a cost of nearly two million dollars. These buildings house 3,600 pupils which number is seven-eighths of the entire enrollment of the school. This is a building record that can be very seldom duplicated.

There has never been a financial scandal connected with the schools of Ironwood. The record of Mr. Sleight and his board members, the most of whom have been with him nearly the entire time, shows transactions that are clear as a bell and above suspicion of any sort. The schools of Ironwood have never been in politics, and the confidence of the people in its board of education is seldom found more complete.

### NEW RULES AND REGULATIONS

—Red Bank, N. J. The board has decided that the use of the high school auditorium and gymnasium shall be free at all times for the use of the alumni and other student occasions, but for general use of the public a charge of \$25 for the use of the gymnasium and \$20 for the auditorium is to be made. In each case there will be an additional charge of \$5 for janitor service.

—The board of education at Dennison, Ohio, has adopted a resolution not to employ married women teachers, and not to reemploy married women who had contracts this year. There is said to be enough single women teachers.



Left: Virginia Technical High School. All of these buildings are of the Independent School District of Virginia, Minn.



Above: Johnson School.



Above: Roosevelt School.



Above: Lincoln School.



Horace Mann School

## Valspar for Schools

Percy Cress, chief engineer for the Independent School District of Virginia, Minn., is an ardent rooter for Valspar! On all the school buildings under his supervision, Valspar has been used both inside and out—and with great success. Here is Mr. Cress's verdict:

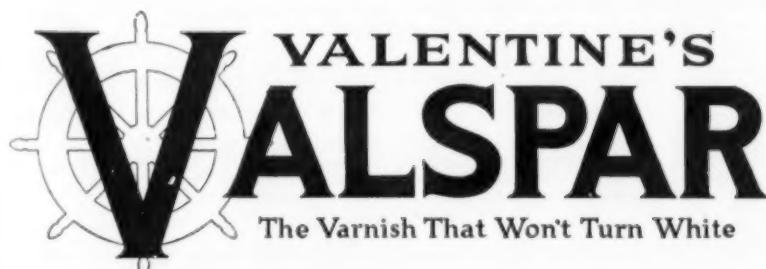
"We have used your enamels and varnishes for a number of years and have always found them to give entire satisfaction. We would highly recommend them to anyone who is using varnishes and enamels for both external and interior finishing."

In fact, Valspar is ideally suitable wherever exceptionally hard wear is to be encountered. The same varnish that so successfully meets the exacting conditions of hospitals, office buildings, homes, speed-boats and airplanes resists equally the wear and abuse which every school building receives. Valspar is extraordinarily durable, because it is elastic and tough—and, of course, absolutely waterproof!

Accidents will not bother Valspar. Water, ink, ammonia, alcohol and alkalies have no effect on it. It can be washed with hot soapy water and strong disinfectants without harm. Valspar's bright lustre will stay bright.

But best of all, Valspar saves money for the school board. It costs slightly more than ordinary varnishes—but it so far *outlasts* other varnishes that maintenance costs, year for year, take a violent downward jump.

*Largest Manufacturers of High-Grade Varnishes in the World*



**VALENTINE & COMPANY**

*Largest Manufacturers of High-Grade Varnishes in the World*

*ESTABLISHED 1832*

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London      Paris      Amsterdam

W. P. FULLER & CO., Pacific Coast

## DENZAR

NOT so very long ago the lighting of classrooms was largely a matter of guess work. Today by means of the Foot-Candle-Meter it is possible to measure the intensity of light at any given point as accurately as cloth is measured with a yard stick.

Modern lighting has been developed into a science, and in the DENZAR you have a scientifically designed lighting unit admirably adapted for the lighting of classrooms, gymnasiums, auditoriums and other large areas.

The list of colleges, high schools and grade schools now lighted with DENZARS is an impressive one, and in many cases the installation of DENZARS has not only resulted in better illumination but in an actual saving in the cost of current—the result of the scientific design of DENZAR which converts the blinding glare of the modern electric lamp into a soft, mellow light and diffuses it over the areas to be illuminated.

You will find the information given in our new DENZAR catalog interesting and helpful. A copy will be gladly mailed you on request.

**Beardslee Chandelier Mfg. Co.,**  
219 South Jefferson St.,  
CHICAGO

### WASHINGTON CORRESPONDENCE

(Continued from Page 65)

but there has been little change between summer and winter prices. Hollow tile seems to have taken a small but appreciable rise in a goodly number of cities. This is due probably to its increased use with stucco or as backing for brick walls and interior partitions. The other articles are practically stationary.

The second table gives building material and construction costs in *Index Numbers*, the average for 1913 being 100. This gives a comparison with pre-war figures. The averages are based on mill prices from plants throughout the country and on wholesale prices in the principal markets, 41 commodities being included. Construction cost is based on labor wages in twenty cities.

#### WASHINGTON, D. C., SCHOOL BOARD

A movement is on foot, backed by the District of Columbia Public School Association, to secure a change in the present law for the selection of the district school board and to provide for its election by vote of the citizens of the District. The present method is by appointment by the Supreme Court of the District of Columbia, the members of which are themselves appointed by the President of the United States. This does not give the school patrons of the

### BUILDING MATERIAL AND CONSTRUCTION COSTS

	Wholesale Building Material Prices	Construction Material and Labor	Frame House Materials	Brick House Materials
1913—Average.....	100	100	100	100
1922—Average.....	167	173	180	183
1923—Average.....	190	214	206	209
1924—Average.....	175	215	201	203
1925—				
January.....	179	210	196	199
February.....	183	210	195	197
March.....	180	210	198	201
April.....	174	210	198	200
May.....	174	207	198	197
June.....	171	205	197	198
July.....	...	...	195	195

District, nor the taxpayers of the District, any say in the selection of its board of education. It is true that the members must be residents of the district, but the members of the court which selects them need not be. There has been long dissatisfaction with the plan and many attempts to improve it.

The District of Columbia Public School Association which is behind the present movement, is composed of men and women from all sections of the District, organized to promote the welfare of the public school system, also to serve as an unofficial spokesman on school

matters for the citizens of the District. It gets the opinion and preferences of individuals throughout the city, and particularly those of the various parent-teacher associations and citizens' associations, bringing them to the school board. It has been of much assistance in supporting the school board in its work, helping secure needed Congressional legislation, keeping the public informed relative to school needs and what was being done to meet them, and in general creating and holding a District wide, active and intelligent interest in the public schools and their officials.

(Concluded on Page 72)

### BUILDING MATERIAL PRICES FROM U. S. DEPT. OF COMMERCE

	Average prices paid by contractors for building materials delivered on the job January and July, 1925																						
	New London	Buffalo	Richmond	Shreveport	Kansas City	Detroit	Chicago	Portland	Los Angeles	Denver	St. Paul	Jan.	July										
Common brick .....	1000	\$30.00	\$25.00	\$20.00	\$19.00	\$17.00	\$17.00	\$15.00	\$13.00	\$5.15	\$15.50	\$17.00	\$17.50	\$12.00	\$12.00	\$17.00	\$17.00	\$13.50	\$13.50	\$14.00	\$14.00	\$14.50	\$14.50
Portland Cement—Excel. of containers .....	bbl.	3.43	3.43	3.03	3.35	3.35	3.35	3.40	2.90	2.50	3.00	3.40	2.15	3.00	3.00	2.60	2.60	3.40	3.40	2.75	2.75	2.75	2.75
Common boards No. 1—1x6 .....	M	45.00	45.00	50.00	50.00	35.00	35.00	56.00	56.00	50.50	52.50	40.00	40.00	54.00	22.00	22.50	35.50	36.50	37.50	48.00	48.00	48.00	
Lime hydrated .....	ton	26.00	26.00	16.00	18.00	17.50	17.50	24.00	24.00	28.00	28.00	20.00	18.00	18.00	26.00	26.00	23.75	22.00	22.00	21.00	21.00	21.00	
Wire nails .....	keg	4.75	4.75	4.15	4.25	3.75	3.75	3.90	4.25	3.60	3.75	3.35	3.45	4.85	4.50	4.50	4.00	3.75	5.25	5.15	4.00	4.00	
Hollow tile 8"x12"x12" .....	each	.30	.20	.20	.20	.22	.22	.14	.16	.19	.21	.14	.15	.19	.20	.20	.17	.17	.13	.13	.13	.13	
Reinforcement bars, %" square .....	100 lbs.	2.45	2.45	3.50	3.50	4.00	4.00	3.21	3.46	3.50	3.30	2.70	4.00	4.00	3.50	3.50	3.85	3.88	3.00	3.00	3.00	3.00	
White lead, dry .....	100 lbs.	13.78	14.18	16.75	15.75	14.75	14.75	17.50	16.50	6.88	15.88	16.25	16.00	16.00	15.25	14.25	16.88	18.13	15.13	15.13	15.13	15.13	
Linseed oil, raw in bbls. .....	gal.	1.07	1.07	1.29	1.43	1.08	1.08	1.40	1.50	1.30	1.17	1.24	1.20	1.15	1.42	1.13	1.33	1.32	1.08	1.08	1.08	1.08	
Window glass single A 10"x12" .....	50 sq. ft.	4.27	4.27	4.20	4.22	5.80	4.20	4.20	4.50	4.50	5.00	6.00	5.00	5.00	4.64	4.33	4.50	4.80	6.88	6.88	6.88	6.88	

Fresh Air Room, 6th Ward Grade School, Ann Arbor, Michigan. Architect: Louis Holmes Boynton. The quiet, restful floor of Gold-Seal Battleship Linoleum is one of several types of sanitary, durable Bonded Floors particularly suitable for schools.



## Sanitary Floors—

Air space, sunlight, comfort—all the factors that make the modern school the most healthful place for children—you consider carefully.

Are you paying enough attention to the floors? More than anything else, the floors of your school should be *clean*—free from disease-laden germs and dust; easy to keep sanitary.

Floors of Gold-Seal Battleship Linoleum meet this exacting standard, and are comfortable, durable and economical as well.

Such floors are free from cracks and crevices, thus furnishing the highest degree of sanitation. And their noise deadening

qualities quiet the clatter of shuffling feet.

Consider yourself free to talk with our flooring engineers—experts of many years' experience—on any of your floor problems, whether they be problems of durability, design, or cost.

This expert advice is only one side of Bonded Floors service—which includes scientific installation of the finest materials, skilled workmanship and, with every floor installed according to Bonded Floors specifications, a Surety Bond protecting you against repair expense.

Write us for information on any question concerning floor materials and their installation.

### BONDED FLOORS COMPANY, INC.

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*Resilient Floors*



*for Every Need*

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# FERALUN

## Anti-Slip Treads

### In New York City's Schools



GEORGE WASHINGTON HIGH SCHOOL, NEW YORK CITY

*The latest type of high school in New York City, shown at the left, is FERALUN equipped throughout.*

During 1924 FERALUN ANTI-SLIP TREADS were used in 46 other New York City schools because they provide absolute safety on the stairways. One instance of FERALUN durability and effectiveness is in Washington Irving High School, one of the earlier units. Installed in 1913, FERALUN TREADS are still rendering 100% service.

Hundreds of other cities and towns, like New York, are providing safe stairs for their teachers and pupils. They insist on FERALUN ANTI-SLIP TREADS and, incidentally, protect their school boards from liability in stairway accidents.

### AMERICAN ABRASIVE METALS CO.

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(Concluded from Page 70)

In the present movement several of the strongest civic organizations are pledged to help. The District of Columbia Public School Association is asking all to make a concentrated effort. The federation of citizens' associations has the question before it and favorable action on its part will mean a united support from the dozen various citizens' organizations it represents. This means strong backing. These citizens' organizations are representative of the residents of the District, being voluntary associations through which, in lieu of the vote, the citizens may make their wishes known to those who make the laws and provide for the machinery of government of the District.

A bill providing for the election of school board members under the plans of the Public School Association has been prepared and will be introduced in Congress when Congress convenes by a member of the sub-committee on schools of the House District Committee. The Public School Association plans to begin in October a vigorous and public campaign to crystallize sentiment for this movement.

#### THE DISTRICT OF COLUMBIA EVOLUTION CASE

The attempt in the District of Columbia to force the Supreme Court of the United States to rule on the question of whether or not teaching the theory of evolution is "disrespect for the Bible" is temporarily in abeyance as the petition for an injunction to prevent the payment of salaries to Dr. Frank Ballou, superintendent of schools, and to the heads of several high school science departments has been withdrawn "to correct several technical errors." The case hinged on their alleged violation of the law, the legal penalty for which is loss of their salaries.

This case is of interest only in its broader

aspects, in view of the Tennessee laws and proposed laws in other states. In the appropriation bill for the schools of the District of Columbia is a "joker" providing in intent that no part of the moneys appropriated may be used for the payment of salaries of superintendents or supervisors who permit, or teachers who teach "disrespect for the Bible," whether directly or indirectly. The "joker" was directed against the teaching of evolution. It came to light when someone called attention to the fact that the biology text in Tennessee was also used to a certain extent in Washington. Someone else discovered the joker. A government employee in the Treasury Department put the two together and filed the petition for the injunction.

The petition contained, it seems, many technical errors. It was withdrawn, it is announced, "to be rewritten." A new petitioner will have to be found for the present one has no children in the District schools and therefore "has no direct or vital interest in the matter." The petitioner claims as a Federal taxpayer, and hence interested in the manner in which public moneys collected by taxation are expended, he has a vital and direct interest, but to remove objections will find a parent of a school child to file the new petition.

The man who filed the petition for the injunction and who has taken all public steps in the case, claims to be an atheist. He states his action is taken solely "for the purpose of bringing about a test case to determine the validity of the section in the current appropriation act for the District of Columbia, which provides that no part of the funds appropriated by the Act may be utilized for teaching "disrespect for the Bible." He contends this is an infringement on religious liberty. Several prominent churchmen have expressed a desire to see the case carried through to the Supreme Court, so

that the legality of such legislation may be definitely settled.

#### PERSONAL NEWS OF SCHOOL OFFICIALS

—B. F. Julian is the new secretary of the Marshfield, Mo., school board. J. M. Bohannon was elected treasurer.

—T. J. Williams was reelected secretary and J. R. Jesse treasurer of the Mexico, Mo., school board.

—Charles B. Mudd was reelected as secretary, and J. A. Schreiber as treasurer, of the St. Charles, Mo., school board. Dr. H. T. L. Hardin is the chairman and George Null vice-chairman.

—At San Antonio, Texas, Perry S. Robertson was elected a member of the school board to succeed Hal Browne, former president.

—The new members on the county school board at Sherman, Texas, are J. T. Brown and D. A. Collough from the Pink Hill community. The other members of the board are: C. R. Badgett of Bells, J. M. Parks of Tioga, C. H. Kirby of Gordonsville, John Washburn of Belton, and George W. Acton of Sherman.

—A. D. Leavell, W. Holland, E. M. Card, and M. A. Coons were reelected to the McAllen, Texas, school board. The holdover members are Fred N. Taylor, J. H. Beatty, W. L. Hart, W. G. Stewart, and W. T. Wright.

—H. H. Ziller was elected to the Beaumont, Texas, school board. He is described as a man with "backbone to stand for what he thought was right, and with enough business ability to discharge his duties creditably."

—The new member of the New Haven, Mo., school board is C. P. Springate. E. E. Murphy was reelected secretary and C. Brown, treasurer.

—The Bernie, Mo., school board elected Lee McDougal, secretary, and Harvey Moore, treasurer.

—Ernest E. Mangels was reelected secretary of the Hannibal, Mo., school board. Walter L. Weaver was elected treasurer. Mr. Mangels has served for seventeen years and was highly commended by the board for his record.

—Van B. Wilks was elected secretary of the Caruthersville, Mo., school board to succeed C. F. Bloker. Earl J. Long was elected treasurer.

—Dr. John Vander Laan was reelected president of the school board at Muskegon, Michigan. He has served on the board for thirty-two years. It is his eleventh term as president.

—Otto Wilner was reelected president of the Tower City, N. D., school board. M. McCarthy was chosen secretary.

—Minnesota. The following were elected to local school boards: Ivanhoe, M. J. Anderson, L. P. Sisson; Mapleton, B. F. McGregor, H. H. Starkey, Henry Wick; Milan, C. R. C. Blom, C. O. Christenson; Mora, A. S. Olson, Theodore Olen; Elmore, M. M. Kerr, A. F. Weyer, C. M. Wick; Litchfield, Tony Borden, Victor Sederstrom; Carlton, Emil Newquist, John Swanson, J. F. Finkeiström; Wadena, L. H. Colson, E. T. Carroll; Thief River, E. M. Benne, N. J. Silk; Coleraine, M. W. Hunter, T. J. Kingston, Milaca, Dr. T. O. Kregier, Edwin Odegard; New Prague, August W. Stechon, C. J. Yackley; Princeton, Mrs. J. W. Mossman, E. E. Whitney.



Georgia School of Technology, Atlanta, Georgia. Architect: Robert & Co., Inc., Atlanta

## Modern Windows for Modern Schools

### Some Schools and Universities Where Architectural Fenestra Has Been Used

University of Arizona.....Tuscon, Ariz.  
Univ. of Southern Calif. Los Angeles, Calif.  
Leland Stanford, Jr., Univ., Palo Alto, Calif.  
University of Iowa.....Iowa City, Ia.  
University of Michigan.....Ann Arbor, Mich.  
Michigan State College.....Lansing, Mich.  
State College for Women.....Columbus, Miss.  
Miss. Agri. & Mech. College.....Jackson, Miss.  
University of Miss. ....Oxford, Miss.  
St. Louis University.....St. Louis, Mo.  
University of Buffalo.....Buffalo, N. Y.  
Cornell University.....Ithaca, N. Y.  
Fordham University.....New York, N. Y.  
State Normal College.....Elizabeth, N. C.  
Ashland College.....Ashland, Ohio  
Teachers' College.....San Antonio, Texas  
Baylor University.....Waco, Texas  
Fort Smith High School.....Fort Smith, Ark.  
Alpine Street School.....Los Angeles, Calif.  
Sentous Jr. High School.....Los Angeles, Calif.  
Ontario School.....Ontario, Calif.  
Sonora High School.....Sonora, Calif.  
McKinley School.....Stockton, Calif.  
North Junior High School.....Colorado Springs, Colo.  
St. Patrick's School.....Bridgeport, Conn.  
St. Stanislaus' School.....New Haven, Conn.  
Armstrong Manual Training School.....Washington, D. C.  
Bell School.....Washington, D. C.  
Georgia Tech.....Atlanta, Ga.  
18 Schools in.....Atlanta, Ga.  
St. Catherine's High School.....Chicago, Ill.  
Timber Twp. High School.....Glasford, Ill.  
Mt. St. Mary's Academy.....St. Charles, Ill.  
Mishawaka High.....Mishawaka, Ind.  
South Bend High School.....South Bend, Ind.  
Abraham Lincoln High School.....Des Moines, Ia.  
St. Mark's School.....Dorchester, Mass.  
Walkerville High School.....Frederick, Md.  
Ann Arbor High.....Ann Arbor, Mich.  
Model High School.....Ann Arbor, Mich.  
Edmore School.....Edmore, Mich.  
Union School.....Lake Odessa, Mich.  
Marshall School.....Marshall, Mich.  
Montague School.....Montague, Mich.  
Central Jr. High School.....Saginaw, Mich.  
Freeborn School.....Freeborn, Minn.  
Flora School.....Flora, Miss.  
McComb School.....McComb, Miss.  
Trenton Jr. High School.....Trenton, N. J.

Give a thought to the windows in that new school of yours. Will they admit sufficient light without glare? Plenty of fresh air without draft? Will they open and close without binding? Can they be washed from the inside? Have they small panes, easy to replace when broken? Are they weather-tight—fireproof—durable?

Modern schools, built by those who know the value of these practical advantages, are designed more and more to include Architectural Fenestra steel windows of the reversible-ventilator type.

### DETROIT STEEL PRODUCTS COMPANY

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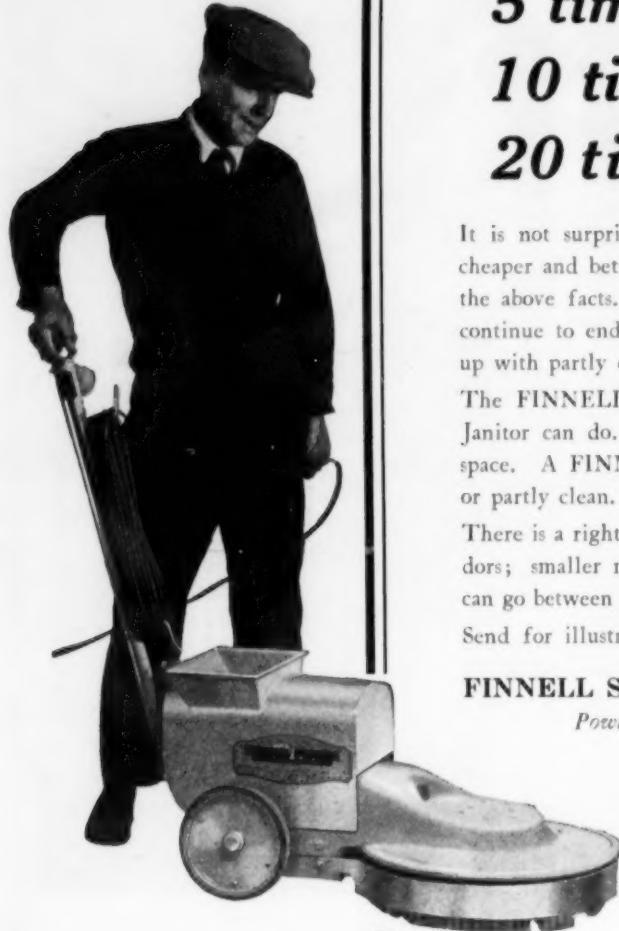
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### Architects Everywhere Are Specifying Architectural Fenestra For Schools and Universities

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St. Paul's Parish School.....Binghamton, N. Y.  
Robinwood School.....Elmira Heights, N. Y.  
Union Free High School.....Lancaster, N. Y.  
South Side High School.....Rockville Center, N. Y.  
Rome High School.....Rome, N. Y.  
Grade School.....Elm City, N. C.  
Gibson School.....Gibson, N. C.  
State Deaf and Blind School.....Raleigh, N. C.  
Siler City School.....Siler City, N. C.  
Wilson High School.....Wilson, N. C.  
Clyde School.....Clyde, Ohio  
Joseph Sullivant High.....Columbus, Ohio  
Milo School.....Columbus, Ohio  
Jackson Grade School.....Dayton, Ohio  
Roosevelt High School.....Dayton, Ohio  
Green Township School.....Plattsburg, Ohio  
Newton Twp. School.....Pleasant Hill, Ohio  
South Side High School.....Toledo, Ohio  
East High School.....Xenia, Ohio  
Xenia High School.....Xenia, Ohio  
High School.....Talihina, Okla.  
Industrial School for Girls.....Salem, Ore.  
Coaldale School.....Coaldale, Pa.  
Belton School.....Belton, S. C.  
Camden Grammar School.....Camden, S. C.  
Thore Grade Schools.....Charleston, S. C.  
Dunne Mills School.....Greenville, S. C.  
Mt. Zion Institute.....Winnsboro, S. C.  
High School.....Jefferson City, Tenn.  
Junior High School.....Johnson City, Tenn.  
La Rose School.....Memphis, Tenn.  
Richmond School.....Memphis, Tenn.  
Appleby School.....Appleby, Texas  
Bowie School.....El Paso, Texas  
Gladwater School.....Gladwater, Texas  
Holliday School.....Holliday, Texas  
Anderson High School.....Orange, Texas  
South Mayde School.....South Mayde, Texas  
Tenaha School.....Tenaha, Texas  
South Cache High School.....Hyrum, Utah  
Hawthorne School.....Salt Lake City, Utah  
Lafayette School.....Salt Lake City, Utah  
Technical High School.....Salt Lake City, Utah  
High School.....Cleveland, Va.  
High School.....Damascus, Va.  
Pietryczki High School.....Dayton, Wash.  
Glenwood Grade School.....Charleston, W. Va.  
High School.....Charleston, W. Va.  
Niclet School.....De Pere, Wisc.  
6 Schools in.....Casper, Wyo.

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## 5 times the Scrubbing Surface 10 times the Speed 20 times the Force

It is not surprising that FINNELL-cleaning should be quicker, easier, cheaper and better than hand-and-knee scrubbing or mopping in view of the above facts. The surprising thing is that there are any schools who continue to endure the costly, antiquated methods of scrubbing and put up with partly clean floors.

The FINNELL SYSTEM doubles and triples the amount of work a Janitor can do. It provides clean water for every square foot of floor space. A FINNELL scrubbed floor is really clean *all over*, not streaky or partly clean.

There is a right model for every kind of job. Larger models scrub corridors; smaller models used anywhere, even in the classroom where they can go between desks, and under anything six inches from the floor.

Send for illustrated booklet, "Your Questions Answered by Users."

**FINNELL SYSTEM, Inc.**

**Hannibal, Mo.**

Power Scrubbing Headquarters for Nineteen Years.

### Some Educational Institutions Using the FINNELL SYSTEM

University of Nebraska, Lincoln, Nebr.  
Board of Education, Baltimore, Md.  
University of Minnesota, Minneapolis, Minn.  
University of N. C., Chapel Hill, N. C.  
Board of Education, Lincoln, Nebr.  
Board of Education, Middletown, Ohio.  
Board of Education, Elizabeth, N. J.  
Board of Education, Fort Worth, Texas.  
University of Michigan, Ann Arbor, Mich.  
American School for Deaf, Hartford, Conn.  
Yale University, New Haven, Conn.  
Cornell University, Ithaca, N. Y.  
Board of Education, Pawtucket, R. I.  
Board of Education, Oakland, Calif.  
Mt. Clemens Board of Education, Mt. Clemens, Mich.  
University of Kentucky, Lexington, Ky.  
State Normal School, Potsdam, N. Y.  
Independent School Dist., Buhl, Minn.  
Moler System of Colleges, St. Louis, Chicago.  
Consolidated Schools, New Britain, Conn.  
University of California, Berkeley, Calif.  
Bethlehem School District, Bethlehem, Pa.

## FINNELL SYSTEM OF ELECTRIC SCRUBBING AND POLISHING



—The right of a board of education to restrict the attendance of school children on the basis of age will be tested in the supreme court of Wisconsin. The Chippewa Falls board of education adopted a rule "that pupils be admitted to the first grade provided they become six years of age before the close of the school year." In the suit brought by William A. King, to compel the board to admit his son to the first grade, the local court held that the board has no authority to adopt the rule and granted a writ of mandamus which is now to be contested in the higher court.

—The Wisconsin state department of public instruction has issued a ruling that after a member of a school board has resigned he is entirely out of office and is without authority to appoint his successor. He is required to turn over his books to the district officials or to his successor.

—Teachers in the state of Wisconsin are employees within the meaning of the Wisconsin Workmen's Compensation Act. A recent opinion of the state department of public instruction holds that in case of injury while at work or while going to and from work, but while on the school grounds, they are entitled to full medical and hospital attendance and to compensation provided in the law. The state department of public instruction has found that there is no uniformity of plan on the part of school districts respecting the insurance of this liability. Some school districts insure risks, others do not. In the various cities the school boards rather follow the practice of the municipality respecting city employees. Janitors come under the same rules of compensation and are treated by school boards the same as teachers. Some school boards take out insurance for their janitors when these are engaged in any considerable amount of construction or repair work on a day basis.

The Wisconsin state department of public instruction has rendered an interesting opinion concerning the residence of a family which is located on the boundaries of two districts. When a dwelling is so located that the boundaries pass through the building, the usual entrance and exit of the family which opens on one of the districts decides the residence of the family and consequently the rights of the children to school privileges.

—The office of school board director and the office of judge or justice of the peace are not compatible under a recent ruling of the Wisconsin state department of public instruction. The Wisconsin laws specifically provide that no judge of any court of record shall be eligible to hold any office of public trust except a judicial office during the term for which he has been elected or appointed.

—The Wisconsin state department of public instruction has cautioned school boards to retain vouchers and other school district records, particularly in such districts where the electors have voted that vouchers and evidence of business transactions shall not be destroyed. In certain school districts of the state papers are destroyed immediately after the annual school district meeting and there is no opportunity to check into the correctness of records or accounts.

—Mrs. M. A. Libby, a member of the school district No. 302, Thurston County, Washington, held a contract through her husband with the school board to transport her children to and from the schools. A suit followed in which it was contended that a member of a school board cannot enter into financial transactions with the same body for personal advantage. The case was carried to the supreme court. That body held that the contract was illegal and that Mrs. Libby must refund \$402.50 to the school district.

—The segregation of school children because of color, as proposed by a petition now before the Mansfield, Ohio, board of education, is outside the law and not possible, according to a decision rendered by the appellate court of Franklin County. The question was brought about by a situation in the Bowman district, where the parent-teacher association petitioned for a separate room or school for the colored

pupils, and no action had been taken by the educational authorities. In the case decided in Franklin County, Earl Reese, Negro, brought suit against the Dayton board of education, which established a special school for colored children in the Garfield subdivision of Dayton. Reese filed a petition to compel the school board to admit his boy to another school. The court held that while the board of education has broad discretionary powers, with reference to the assignment of pupils to various districts, such assignment cannot be based upon the sole ground of race or color.

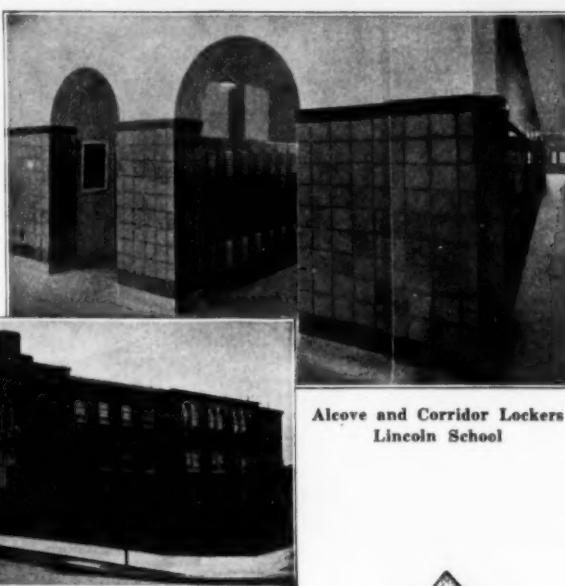
—An Iowa court has ruled that a contract between a teacher and a school board just retiring is valid, even though rescinded by a new board. The decision was given in the case of R. A. Griffin, superintendent of the Glidden schools, who was opposed by a faction which elected two board members pledged to vacate the superintendent's contract. The old board, before retiring, contracted with Griffin, and the new board attempted to terminate the contract. The case may be appealed to a higher court.

—Wood River, Ill. The city council and the directors of the community high school district are in disagreement over a bill of \$387 for water, which the high school authorities refuse to pay. The controversy arose over a question as to the accuracy of the meter used to measure the water furnished. Steps have been taken to effect a compromise in an effort to dispose of the matter.

—The city council of Janesville, Wis., has been asked to grant compensation to Lawrence Goethe, a pupil, who had the first two fingers of his left hand severed in an accident in the manual training shop. The boy was cut by a running saw which it was alleged was not properly guarded, and amputation was necessary. A request for compensation had been made to the school board but the board replied that it had no legal right to expend money for such a purpose.

—The Gloucester, Mass., school board has ascertained that the destruction of school property during the summer months by children was wanton and not accidental, and has decided that hereafter all damage must be paid by the parents.

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The Lincoln School, Trenton, N. J., which provides accommodations for 1200 pupils is entirely equipped with Durabilt Steel Lockers. The Principal, Staff and Pupils are very enthusiastic over the building and the fine equipment.

Approximately nine thousand dollars worth of Durabilt Steel Lockers — harmonizing in finish with the beautiful blue faience tile wainscoting—are built in the alcoves and corridors, contributing their full share to the effectiveness of the interior color scheme.

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## SCHOOL BUILDING LOAN FUNDS IN NORTH CAROLINA

The special building fund for the schools of North Carolina was conceived in 1921, at a time when the leaders of public education were confronted with an unprecedented demand for larger and more modern school buildings. The so-called literary fund, created by act of the legislature in 1825, had proved inadequate in amount to meet the demands made upon it. The unprecedented development of high schools and the growing movement in the counties whereby hundreds of small schools were being consolidated, made it imperative that some more adequate means of financing the construction of larger buildings be found.

State Superintendent E. C. Brooks, in 1921, asked the legislature to authorize the issuance of \$5,000,000 of state bonds, to be lent to the counties. The general assembly acted favorably and a statute authorizing the issuance of bonds in the required amount was passed. Under the law, loans to the counties were payable in twenty equal annual installments, and that they bear interest at the same rate that the state must pay on the bonds. The amounts loaned the counties under the act became liens upon the total school funds of the counties that borrowed.

The use of the special building fund was limited to building, equipping and repairing school buildings, teacherages, and for the purchase of suitable sites. No loan might be made for erecting or repairing any building having less than five rooms.

Under the rules of the state board, the quota for each county was determined by the relation which the school population of each county bore to the school population of the state. If a county failed to take the quota allotted to it,

then the difference was allotted to other counties applying for it.

The first \$5,000,000 were readily absorbed. Forty counties borrowed more than their quotas, eight counties borrowed less than their quotas, 47 borrowed exactly their quotas, and five counties borrowed none. The first building fund was quickly loaned, and applications for more were denied when the fund had been exhausted.

The second \$5,000,000 fund was authorized by the general assembly of 1923 and was loaned to 87 counties. Thirteen counties made no applications. Fifty-one counties borrowed more than their original quotas, 32 borrowed less, nineteen borrowed double the amounts of their original quotas, and thirteen counties borrowed none. Loans amounting to \$10,048,000 were made to 97 counties, an average of \$103,587 per county.

### FINANCE AND TAXATION

—Milwaukee, Wis. Reconsideration of the Milwaukee school budget for 1926, recently adopted and presented to the common council, is asked in a communication sent to the school board by the Citizens' Bureau of Milwaukee. The communication criticizes the large increase in school expenditures for 1926 compared with 1925, and also asks the school directors if they are willing to apply home rule to school affairs, suggesting that this might make it possible to provide funds for financing the board's building program.

The school budget of \$8,985,801 suggested for 1926 is \$1,437,328 larger than the budget for 1925. It is the largest school budget in the history of the city and an increase of nineteen per cent compared with the 1925 expenditures. Based on the 1925 budget, the increase in the board's expenditures in fourteen years will be 208 per cent. From 1913 to 1924 property assessments increased only 47 per cent.

The board is requesting \$1,200,000 by direct taxation for new school buildings. "The need for new buildings is abnormal and bonds should be resorted to, to meet the unusual building requirements," says Mr. John F. Putnam, secretary of the Citizens' Bureau. "We believe," continues Mr. Putnam, "that the common council, or the people of Milwaukee by referendum, have full power to change the present charter limitation on school bonds, making it possible

to raise three to four million dollars in bonds in 1926." This would permit the board to accelerate its building program so that no child would be in barracks by 1927.

—The Bessemer, Michigan, township school taxes will be cut approximately \$80,000 for the next year, according to the figures arrived at as a result of the new bookkeeping system installed by the board of education. A great saving has been made during the past year in all departments, according to Nesto Erickson, secretary of the board of trustees, and the bonded indebtedness is especially reduced and is being retired at the rate of \$25,000 per year. At the present time the bonded indebtedness of the township school district is \$201,000. Last year \$15,000 was expended for interest charges on the bonded indebtedness, but this amount will also be reduced. The interest charges in former years were double last year's figures.

—A reduction of \$6,000 from the voted school tax was made by the Adrian, Michigan, board of education at the annual meeting. A larger balance on hand and an increase in the primary school fund made it possible for the board to recommend a voted tax of \$126,000. The board's report showed a total estimated cost of operation amounting to \$205,300 as compared with \$199,300, which was the budget total last year. The difference between the voted tax of \$126,000 and the total estimated cost of operation of \$205,300 will be made by the estimated receipts from other sources. These include a balance on hand of \$15,000, which is \$5,000 more than last year; \$37,500 from the primary school fund; \$15,000 from the one mill tax and some other smaller amounts, including foreign tuition. The estimated expenditures, \$8,920 for general control, under which head are grouped the salary of the superintendent and his office assistants, office supplies, fees and supplies for the board of education, and other administrative expenses; \$153,425 for instructional services, including \$145,200 for teachers' salaries; \$28,700 for plant operation; \$7,525 for maintenance; \$500 for insurance; \$100 for the redemption of short loans; \$1,800 for building equipment and \$4,230 for auxiliary services.

—The board of education at Newark, Delaware, has fixed the special tax rate for taking

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The range of colors gives ample opportunity for various color plans as required. Reproductions shown here indicate that the range in designs is practically limitless.

Alundum Ceramic Mosaic Tile is furnished loose, by the barrel, or mounted in any design favored.

Colors: Brown, white granite, buff, gray, salmon and green.

Sizes: 3/4" and 1-1/16" square. 1" hexagonal. 2-1/4" x 1-1/16" nosing.



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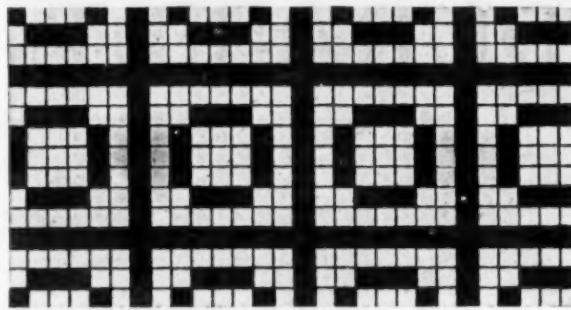
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Philadelphia

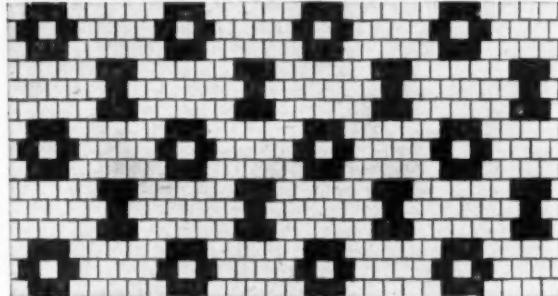
Chicago

Hamilton, Ont.

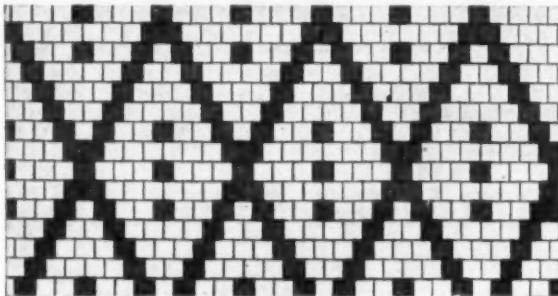
Detroit



No. 1107—44% Alundum Ceramic Mosaic



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care of the bonds issued to build the new school building at 32 cents. This is a reduction of eight cents, compared with the past year.

—Sioux City, Iowa. The school budget has been reduced \$106,865, which means a millage reduction of six mills, and makes the total budget for 1925-26 \$1,671,540. The millage has been reduced from 71 mills to 65 mills.

—Perry, N. Y. The board of education has announced a reduction in the school budget from \$106,585.00 to \$102,413.77. The total amount to be raised by tax is \$80,000 as against \$84,300 last year. The amount the schools will receive from the state is \$22,413.77 as against \$22,285, which they received last year.

—Twin Falls, Idaho. The budget system of financial administration has been very successful in Twin Falls since 1921, when the expenditures of the district were in excess of the levy. The budget has balanced every year, with a surplus left from the levy over the expenditure, which has been put into delinquent tax certificates and allowed to accumulate as a sinking fund, which has made possible the retirement of \$116,000 in bonds since 1921. The levy for the past two years has been 22 mills.

—Bloomington, Ill. The total cost of operating the schools in 1925 was \$502,741.25, or an increase of about \$200,000 as compared to \$289,000 expended five years ago. The increase is largely due to higher salaries and building improvements. Teachers' salaries alone amount to \$100,000 more than five years ago, the total for this year being \$238,652.74. Another factor in the expense account for 1925 is the Horatio G. Bent School, which is practically complete and which cost approximately \$127,000.

Total receipts for the year amounted to \$503,862.05, which includes the sum of \$24,197.74, the balance on hand at the beginning of the year. Sources of revenue for the year are as follows: From trustees, \$29,676.49; district taxation, \$413,127.03; tuition, \$2,323.66; sale and rents from school property, \$1,428.08; insurance adjustments, \$25.50; reimbursements from state board for vocational education, \$862.30; transfers and non-high school pupils, \$10,632.

Net expenditures amounted to \$474,641.25 while the total expenditures, including district bonds paid in the sum of \$20,000 and interest on bonds in the sum of \$8,100, was \$502,741.25.

leaving a balance in the treasury on June 30, 1925, of \$1,120.80.

—Indianapolis, Ind. Business director of the board of school commissioners, Wm. H. Book, announced the following proposed school budget for 1925-26 as compared with the expenditures for the year 1924-25:

	Budget 1925-26	Spent in 1924-25
Administration	\$ 189,950	\$ 177,493.27
Instruction	3,922,305	3,767,161.89
Operation	486,785	454,694.28
Maintenance	212,535	349,969.26
Auxiliary agencies	396,780	371,088.80
Coordinate agencies	10,800	10,223.38
Fixed charges	75,900	14,911.65
Debt service	481,550	443,628.03
Capital outlay	3,760,690	1,507,163.86
Sinking fund	764,882	.....
Total	\$10,302,177	\$7,096,334.42

The budget request for 1924-25 was \$9,697,852. The difference of \$2,601,517.58 between the budget request and the actual expenditures was due to the cutting of the budget requests by the school board and then a further cut in the tax levy by the state tax board.

The budget figures show a substantial reduction in maintenance costs in order to permit the board to raise large additional sums for new school buildings and to retire accumulated deficits. The automatic increase of teachers' salaries and the salaries to be paid new teachers employed caused the appropriations for teachers' salaries to be increased by about \$155,000.

—Cedar Rapids, Iowa. The board of education has announced a school budget of \$1,118,484.25 for the coming school year. The expenditures for the past year were \$1,202,544.81. This means a reduction of four mills on the tax levy for school purposes. According to the budget, the amount for general control has been reduced from \$36,832.11 to \$33,325. The instruction service has been increased, due to increased attendance, from \$616,265.14 to \$650,700, of which amount \$550,000 will go for teachers' salaries.

It is estimated the operation of the school plant will cost \$101,815; maintenance, \$38,300; improvements and equipment, \$37,250; fixed charges, such as rents and insurance, \$5,900;

and auxiliary agencies, including library books, health service, \$13,700. The estimate of expenditures in the general fund is \$886,860 and in the schoolhouse fund \$231,624.24, making a total of \$1,118,484.25.

—Rock Island, Ill. The board of education has passed a resolution asking for \$430,000 for school purposes. Three hundred thousand dollars of this amount will be used for educational purposes and \$130,000 for buildings. Of the latter amount, \$30,000 will be placed into the high school building fund. This brings the total fund for the proposed new high school building up to \$208,000.

—Lebanon, Tenn. The county school board finished the school year of 1924-25 with a balance of \$8,234.07 in the elementary fund and \$1,705.32 in the high school fund. Besides this, the old school debt for which a five cent tax levy was imposed was reduced from \$32,051.27 to \$25,296, and \$1,816.02 interest was paid the banks which are holding the old warrants. The total expense for the year was: Elementary, \$71,383.32; high school, \$35,679.01.

—Fargo, N. D. The board of education budget for 1925 shows an increase of \$11,000 over 1924, according to figures submitted at a meeting of the board. The estimate for the year is placed at \$401,000.

—Seattle, Wash. The total revenue for the year ending June 30th was \$4,892,888.80, or \$33,158.80 in excess of the budget estimate of revenue which was \$4,859,730. The expense account will be approximately \$4,800,000, exceeding the actual income by close to \$100,000.

—Logan, Utah. The following items for the budget for the school year 1925-26 were presented by Supt. Orson Ryan and adopted by the board of education:

For support and maintenance, purchase of school sites and erection of school buildings, \$158,791.75; for the payment of interest on bonds, \$5,350; for sinking fund necessary to retire school bonds, \$6,000.

—Ogden, Utah. The budget of the board of education calls for a levy of 11.5 mills instead of 12.5 as indicated by the action of the board before the county commission on May 1st. The segregation of the items in the budget is: Administration, \$17,600; instruction, \$477,400; operation, \$49,000; maintenance, \$19,500; auxili-

(Continued on Page 80)



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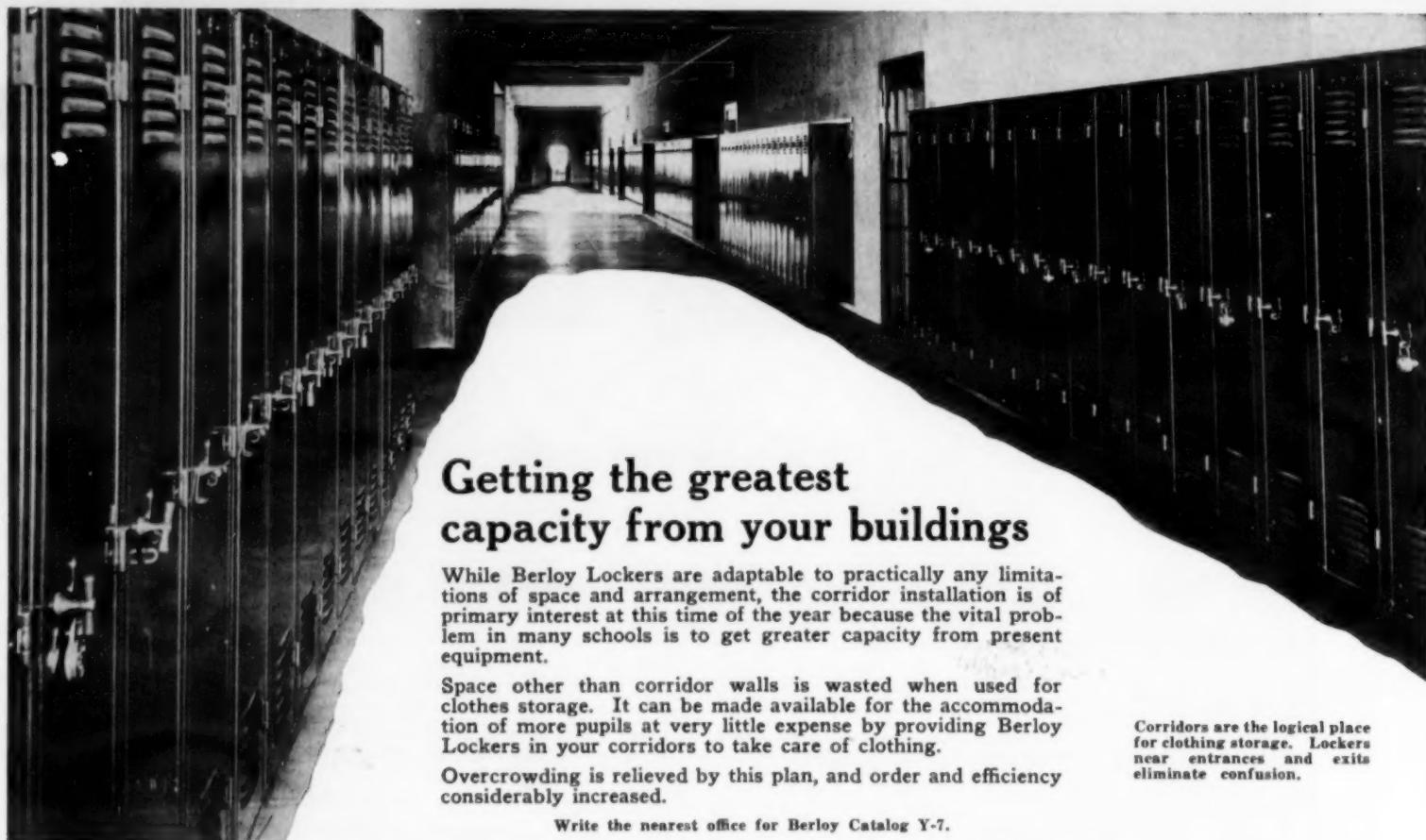
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## BERLOY STEEL LOCKERS

(Continued from Page 78)

ary agencies, \$1,500; fixed charges, \$2,500; building fund, \$104,000; interest fund, \$48,500; sinking fund, \$20,000. Total, \$740,000.

—The school board at Bellefontaine, Ohio, has prepared the following budget for the year 1926: Tuition fund, \$80,000; contingent fund, \$2,500; bond and interest fund, \$32,451.37; teachers' retirement fund, \$5,500; library fund, \$5,000.

—The cost of high school instruction in Bellingham, Wash., was reduced \$16.60 per pupil during the last year. The total cost of instruction was \$158,022.50 while the year before it was \$158,347.64. The high school enrollment this year was 1,673 students, exceeding the previous year by 185 students. The average cost per pupil was \$88.47 per year, or \$0.362 per day. The cost of grade school instruction was reduced from \$250,656.32 to \$250,365.55; or an average cost of \$54.57 per year, or \$0.207 per day.

—Practically no discretion is vested in the fiscal officers of the state of Illinois in administering appropriation bills passed for specific purposes by the general assembly, according to an opinion of Attorney General Carlstrom, given to C. H. Jenkins, head of the state welfare department.

The purpose in question was the payment by the state to school districts maintaining special schools for crippled children of an amount equal to the excess cost of educating such pupils. The fifty-third assembly appropriated \$100,000 for the work in 1923, and the last assembly appropriated a similar amount.

Under the decision, money appropriated for the next two years may not be used for paying back debts contracted between July, 1923, and July, 1925.

—Quincy, Ill. The school board has adopted a budget calling for the expenditure of \$369,680 for the educational fund and \$143,050 for the building fund.

—Bay City, Mich. The board of education has adopted a budget of \$677,275, which is a reduction of \$71,680 from previous estimates.

—Taxpayers in Lapeer, Mich., have complained that few school districts in Lapeer

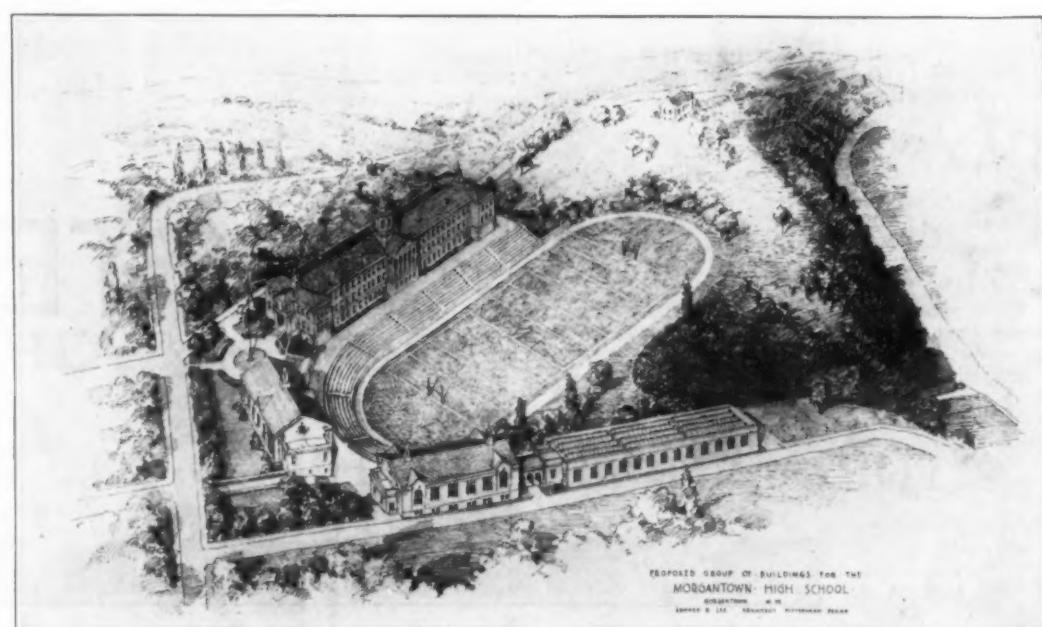
County publish a complete statement of the proceedings of the annual meeting and an itemized financial statement of the receipts and expenditures for the school district during the year, as required by law. The violation of the law had become so flagrant that state superintendent of public instruction, Thomas E. Johnson, wrote a letter to the secretaries of all the boards of education in Michigan, informing them that failure to comply with the law would mean "loss of primary money."

—At the request of the Alabama Education Association," reports Secretary H. G. Dowling, "school officials of towns, cities and counties of the state are preparing estimates of the most pressing needs of the schools. Fifty-three counties have already reported." The study is being made in order to present some definite figures for consideration. Blank forms were

sent to superintendents of education and chairmen of boards of education in 67 counties and in 78 towns and cities. These officials were asked to be as conservative as possible, to judge the needs by existing standards, and to base their figures on the school sentiment generally indicated by the people whom they serve in the various districts.

The reports showed that it would require \$2,332,673 additional funds for teachers' salaries alone, to provide a standard nine-months' term. Since many rural districts are not ready for a full school term, the report showed that on this basis \$1,794,934 is needed for a term that would satisfy public sentiment. This would mean no advance in salary, no improvement of the teaching force, and no addition of new school activities.

(Continued on Page 82)



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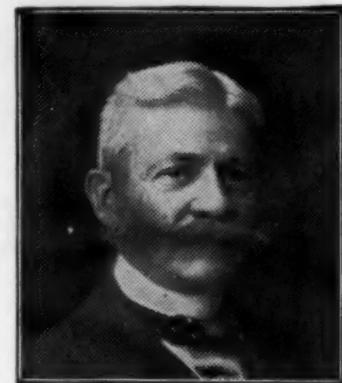
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WHEN BOOKS ARE  
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ALL NEW BOOKS AND THOSE IN  
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THREE QUALITIES  
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FREE

(Continued from Page 80)

To raise all teachers to a minimum standard of high school graduation or its equivalent as a preparation for teaching would necessitate \$197,400. To provide normal school graduation as a minimum would cost \$976,485. Most counties require high school graduation as minimum training, but practically all towns and cities require the two years additional of normal school training.

The following extract from the report summarizes the need of funds in Alabama: "To furnish a term that will keep pace with the public in rural schools alone in the 53 counties will require \$2,061,000. If the other fourteen counties which have not reported are considered as a fourth of the 53 reporting, a need for \$510,000 additional is indicated. In other words, with \$2,572,000 of additional funds for extension of terms, the rural schools of Alabama could satisfy the people fairly well next year."

The estimates on the city schools are not yet available.

—Fargo, N. D. The budget estimate for 1925 as reported by the board of education totals \$401,000 as against \$390,000 a year ago, which means an increase of \$11,000. The amount set aside for the upkeep and repair of buildings has been increased from \$12,000 to \$30,000 while the teachers' salaries fund has been decreased from \$215,000 to \$207,000. The contingent fund has been increased from \$96,000 to \$86,400. Owing to paying off a bond issue during the past year, the amount required for interest is \$21,400 as against \$30,000 in 1924. The sinking fund appropriations remain the same, \$37,600. The tuition fees for outside grade pupils have been reduced from \$100 to \$95 per school year.

—The school board of Beatrice, Neb., has awarded a contract for approximately 600 tons of coal at a substantial saving in cost. The H. Williamson Company, of Beatrice, was given two contracts, one to furnish a lower grade of coal at \$6.40 per ton, and one for a higher grade at \$6.95 per ton.

—Indianapolis, Ind. The school board has awarded coal contracts on three grades, constituting approximately 21,386 tons for the year 1925-1926, with a saving of about \$6,000 in cost.

The Allied Coal and Material Company received the contract for 8,488 tons of fifth vein Indiana screenings at \$3.48 a ton, and the contract for 9,018 tons of two-inch, fifth vein Indiana lump at \$4.18 a ton. In the case of West Virginia lump, it was held the Island Creek coal was the better grade for its carbon content, and the contract went to the Peoples Coal and Cement Company and the Indianapolis Coal Company at \$5.37 a ton. The total cost for the 21,386 tons will be \$97,888.

The construction of a \$9,000 school building at Milan, Wash., depends upon a court decision which seeks to invalidate a third bond election which resulted in approval of the bond issue. The court was asked to set aside the result of the election and to stop the treasurer from selling bonds. Milan is a lumber town and there appears to be much opposition to the school building.

The school board of Lansing, Mich., contemplates legal action to recover money due from uncollected taxes since 1916. The amount involved is approximately \$165,000 and the interest will amount to nearly \$5,000.

—Council Bluffs, Ia. The school board has adopted a tax rate which is five mills higher than last year. The taxes to be raised total \$702,190, divided as follows: General fund, \$568,590; school buildings, \$118,600, and special playground fund, \$15,000. The estimated expenditures for the year are placed at \$746,190.

—Lincoln, Ill. The school board of Lincoln Dist. No. 404 has raised the tax levy \$20,000 for 1925. The levy provides \$110,000 for expenses, including \$70,000 for educational purposes and \$40,000 for building.

It is imperative today that standards of training and ability be raised; that more and better students be secured for the teacher-training schools, and that the best service possible be obtained from the present teaching staff. The task of so administering salary schedules at this time that these desirable changes may be effected is one of the most difficult, and at the same time, most important problems facing school superintendents.—Edward S. Evenden.

—Effingham, Ill. The citizens have defeated a proposition to levy an additional tax of fifty cents to pay off an accumulated debt.

—Marinette, Wis. The school board budget providing for \$140,000 for next year's expenditures, has been approved by the city council. The budget represents an increase of \$10,000 over last year.

—Grand Rapids, Mich. It will cost nearly \$5 more to instruct each pupil in 1925-1926 than it did last year, according to estimates of the board of education. This year's per capita figure is \$100.08, as against an instruction cost of \$95.39 last year.

—The budget adopted for the Indianapolis public schools for the year 1925-1926 indicates higher operating costs.

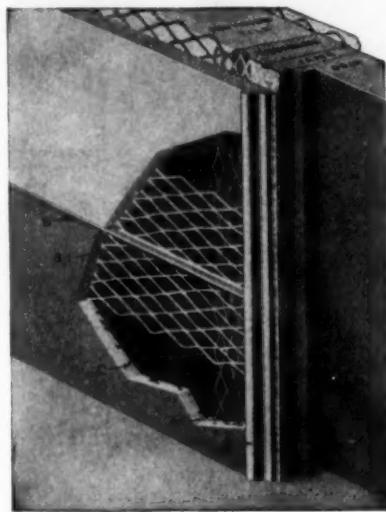
—New York state cities are spending less for education than are the cities outside of that state. George M. Wiley, assistant state commissioner of education, has compiled figures to prove this fact. Property in New York state is valued at \$17,500,000,000. Only 1 per cent of that amount is spent for education. The wealth of the state is \$35,000,000,000. New York is putting only one-half of 1 per cent of its wealth into education. The income of the state's residents is \$9,000,000,000. Education costs only \$2 of every \$100 income.

—The school expenditures for North Carolina were increased from \$1,062,303 in 1900 to \$29,747,075 in 1924. During this period the value of the school property shows an increase of 5,345 per cent. The average value of each schoolhouse has increased from \$158 in 1900 to \$770 in 1910; to \$1,162 in 1914; to \$1,977 in 1919; to \$3,009 in 1920, and to \$8,222 in 1924. There were 1,190 log schoolhouses in use in 1900. This number was reduced to 263 in 1910; to 165 in 1914; to 124 in 1919; to 94 in 1920, and to 53 in 1924. Of the 53 log houses used in 1924, 4 were used for white schools and 49 for colored schools. The number of one-teacher schools has decreased from 5,047 white and 2,418 colored in 1900 to 1,633 white and 1,356 colored in 1924.

—The amount expended by the St. Louis, Mo., board of education for car fare for the year ending June 12, 1925, in transporting pupils, was \$18,735.05.

(Continued on Page 85)

## This New MILCOR "Expansion" Metal Trim means Sanitary, Crackproof, Firesafe Walls



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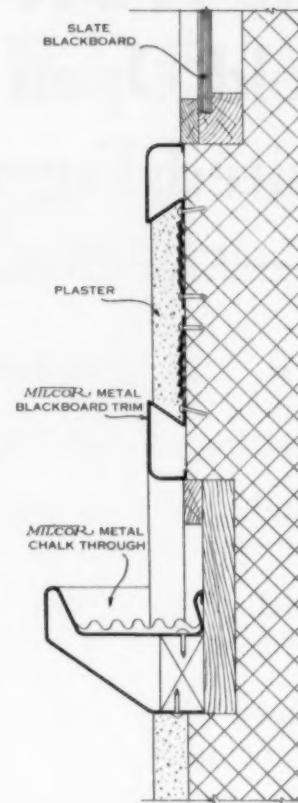
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Plan view of Milcor "Expansion" Metal Trim No. 9, with Milcor Metal Chalk Trough. Above the Slate Blackboard a "Tacking Board" trimmed also with Metal Trim No. 9, can be economically installed. Details on this modern wall construction will be furnished without cost or obligation to School Boards, Architects or Contractors. Just write.

(Continued from Page 82)

The school budget for the Greater New York schools for 1926 is at this time estimated by Chairman Arthur S. Somers of the budget committee to be \$105,000,000.

—Pearl River, N. J. The school board's budget, calling for an expenditure of \$86,000 during the next year, has been passed without opposition.

—Omaha, Neb. The school board has voted to increase the school tax levy to thirteen mills, the maximum permitted under the law. The 1924 rate was twelve mills.

—Tacoma, Wash. The school board has retained the fourteen-mill tax levy for this year, despite the need for the payment of \$218,000 principal on bond issues, and the opening of a large building program.

The school district is reported in fine shape financially. The fiscal year ending in June found the board with a cash surplus of \$46,000. On December first, the board plans the first payment of \$53,000 principal on the \$2,500,000 bond issue authorized two years ago for six intermediate schools. It has on hand \$165,000 with which to retire the balance remaining of a \$200,000 bond issue authorized in 1905.

Exceptional savings have been effected in the payment of interest on the \$2,500,000 school bond issue through the fact that the board has issued the bonds only to the point where it needed cash to meet payments due contractors on work under way. A low rate of interest has also produced a large saving.

—County Auditor A. J. Thatcher, in a letter to the school board of Columbus, O., has declared the board asks for approximately a half million dollars more than it needs for its 1925 budget. He points out that the board does not need this for next year because under the law it cannot get or use it next year. If the money is forthcoming the effect is to create a surplus of \$530,000 to be deducted the following year from the tax revenue to be levied for 1927.

—School costs in Yakima, Wash., are not following the procession, but are being definitely lowered, according to Secretary B. F. Kumler. Per capita costs for all schools were \$2.32 per pupil less during the year just closed than the preceding one, and amounted to \$79.98. The cost for high school students was \$111 as compared with \$113.28 for the preceding year, while

for the grade schools, the expense dropped on a per pupil basis from \$72.46 to \$68.90.

—Lynn, Mass. Facing a call for \$80,000 to buy equipment and furnishings for the new wing of the English high school, the new financial program has run up against a stone wall for the lack of borrowing capacity within debt limits. It is feared the \$412,000 program will be delayed with hardly half the contemplated program covered by bond issues and thousands of dollars for materials for jobs completed or under way still unpaid. Last year a request for borrowing capacity outside the debt limit for the English high school was answered with a sharp reprimand that the city borrow within the debt limit most of the money required for the

—State Supt. McHenry Rhoads of Kentucky has fixed the per capita for schools at \$7, based on a state school population of 680,000 children. The school census indicated an increase of 20,200 pupils over last year.

—Garden City, Kans. The school board has named four of the school buildings after men prominent in the history of the city. Of the four, only one was named for a school official. The name of Dr. Andrew Sabine, a former mayor and board president, was given to this school.

—Marinette, Wis. School buildings and equipment of the city are valued at \$1,113,494, according to an appraisal made of the property recently. The appraisal was made preparatory to the adoption of a policy of insuring the buildings on the eighty per cent co-insurance plan. After deductions were made for exclusion, wear and tear, obsolescence, age and inadequacy, the total insurance value was found to be \$907,202, which is the basis upon which the insurance was placed.

—Fourteen schools in Indiana were recently condemned by the state board of health. These buildings must be remodeled or made sanitary before they may be reopened for school purposes.

A nation which lets incapables teach it, while the capable men and women only feed, clothe, or amuse it, is committing intellectual suicide.

—Edward L. Thorndike.

—The erection of the West Side and Jefferson High schools at Indianapolis, Ind., will begin in October. The school board has adopted a resolution calling for a bond issue of \$1,050,000, of which \$500,000 will be used for the west side school, and \$550,000 for the Jefferson school.

—Joliet, Ill. The school board has called for plans for a four-room school in the East Washington district. A bond issue of \$140,000 for this building and for a two-room addition to the Farragut school were voted more than a year ago but the bonds were not sold because of the condition of the finances.

—Carlinville, Ill. The school board has adopted a scale of prices for the public use of the high school. The charges are made to cover light, water, gas, and janitor service.

—Columbus, O. In adopting a budget of \$5,824,914 for the school year 1925-1926, the school board failed to approve an amendment which would provide funds for new sites and for a new elementary school. The total increase would have been \$438,000.

—Racine, Wis. Opposition has recently been made to the \$900,000 bond issue proposed by the school board for two high school buildings. It is held that \$900,000 would be inadequate for the building of two schools and that the bond issue is illegal.

—Little Rock, Ark. The school board has received bids on mortgage bonds, totaling \$235,000. Funds derived from the sale of bonds will be used for building and equipping school buildings.

—Minneapolis, Minn. The school board has taken out tornado insurance for the schools. A twenty per cent coverage for tornado insurance will give an insurable value of \$23,000 on all buildings for five years, amounting to \$4,600. The real valuation of all the school buildings and contents is approximately \$18,000,000.

—The school board of Fulton County, Ga., in a recent report, shows that nearly \$350,000 have been expended on new school buildings for the county school system. The 1925-1926 expenditure is estimated at \$134,000 greater than the total amount spent in 1924, when \$211,000 were expended in new buildings.

—A new elementary school erected at Detroit, Mich., has been named the Clark school in honor of Dr. John E. Clark, former president of the board of education.

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**3rd.** The Hold-Open Device connected with the arm of the Door Closer is automatic, a child can operate it—just a push or pull on the door is all there is to do it. Does away with door stop, hook or strap to hold the door open.

**SERVICE:**—We have expert servicemen on call, free of charge.

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Use the Norton Liquid Door Closer with Hold-Open Arms and do away with door stop on bottom of door.



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North East High School, Minneapolis, Minn.

Chicago Public Schools

Toronto Public Schools

East Side High School, Cincinnati, Ohio.

Cass Technical High School, Detroit, Mich.

Technical High School, Omaha, Nebr.

—A \$750,000 school bond issue was lost by a narrow margin at Joplin, Mo. The vote was the heaviest ever recorded in Joplin, 5,600 being cast. The votes for the school bonds totalled 3,698 while the opposition totalled 1,902 votes. It requires a two-thirds vote to carry a bond issue. The bond proposal was made on recommendation of Dean M. G. Neale of the school of education of the University of Missouri who had prepared a survey of the school system.

—John H. Mahony was appointed a member of the schoolhouse commission of Boston, Mass. Francis J. Turnbull was appointed heating engineer of the schoolhouse department.

—The Utah state educational department recently sent out a communication to the local school authorities dealing with the subject of colors as follows: "The color and finish of walls are important matters. Glossy paint causes glare and it should not be used on side walls. Matte surfaces are to be preferred. Light warm gray, light buff, dark cream and grayish green are appropriate colors for walls; white and light cream for ceilings. Desk tops and other wood work should be in a dull finish to avoid reflection and glare."

—New Haven, Conn. The total amount of insurance carried on school buildings is \$5,000,149. There are 59 schools, of which the heaviest insured is the high school at \$760,000. The city also holds \$719,000 in insurance on personal property, school and office furniture, fixtures and supplies of all kinds.

—Hartford, Conn. The plan and building board in charge of the construction of the Bulkeley high school has refused to consider a change in the name of the building. The trustees of the Bulkeley School in New London, opened in 1873, had complained that the name selected for the new school in Hartford might prove confusing.

—Instead of planning another senior high school, the New Bedford, Mass., board of education has agreed to construct two new junior high schools.

—New York, N. Y. A reduction in the number of sittings under construction has been reported in connection with the carrying out of the huge building program of the education department. On July first, the total number of

sittings under construction reached the lowest point since 1923, with 72,694 sittings. In September, 1924, the high point in the school building program was reached with 146,057 sittings under contract.

While the number of sittings under construction continue to decrease, the building bureau increased slightly the number of new schools. The total number of sittings in buildings planned on July first was 34,199 as compared with 38,894 in June, and 22,291 in May, the lowest point in the year. The largest total was that in February, 1924, when plans were prepared for new schools providing 70,745 sittings. The number of sittings increased from 95,956 in September, 1923, to 112,920 in February, 1925. From this time on the number steadily decreased until July, 1925, when a total of 72,694 was reached, or a decrease of almost 100,000.

The reduction in school construction is attributed to a desire to conserve school funds, to save money for future construction, and to a desire to check up on the results of the building program and to study possible economies in school construction.

—Pontiac, Mich. The public school system cost approximately one million dollars to operate during the year 1924-1925 just closed, according to a report presented to the board of education. Receipts from all sources during the year, with the exception of the bond issue, totaled \$1,027,691, while the disbursements for the same period, excluding the bond issue disbursements, reached the same figure.

Estimated expenses of the school system for 1925-1926 show needs amounting to \$1,063,130. Estimated resources for the year total \$205,735, leaving the balance, \$857,395, to be raised by taxation.

The outstanding indebtedness of the system is \$2,241,000. The total issue amounted to \$2,311,000.

—Frankfort, Ky. Estimating that Kentucky will have 680,000 school children during the school year 1925-26, McHenry Rhoads, state superintendent of public instruction, has set the per capita for schools at \$7. This is the same amount as last year.

During 1924-25 Kentucky had 659,000 school children. On a per capita basis of \$7 this meant

expenditure of \$4,618,600. The surplus July 1, 1924, was \$741,154.

On July 1, 1925, the Treasury showed a surplus of \$973,641 in the school fund. While the surplus is larger than last year, an equal per capita rate will mean an expenditure of \$4,960,000, because of the increased school population.

—Supt. Leroy Weller of Oil City, Pa., has announced an early reorganization of the school plant. He points out that in the past it has cost the taxpayers from six to nine per cent more than average for the operation and maintenance.

—Bay City, Mich. The school board has adopted a budget of \$677,275, which is an increase of approximately \$50,000 over the amount allowed the previous year.

—Peoria, Ill. The high school board has adopted a tax levy calling for the raising of \$72,000 for education and \$40,000 for building purposes. Last year the levy was \$66,600 for education and \$20,000 for building.

## PERSONAL NEWS OF SCHOOL OFFICIALS

—R. E. McDonald is the new member on the school board of Stamford, Texas.

—E. E. Best was elected president of the Newport, Ark., school board. James Q. Blackwood was chosen secretary.

—O. M. Valentine succeeds E. S. Hoke on the Chambersburg, Pa., school board.

—S. P. Wallingford was elected president of the Wichita, Kansas, school board. The five new members on the board are: Ross McCormick, Carl Davis, Ray Tindel, H. B. Damon, and R. B. Hammond. The old members are: Frank Neff, J. W. Gibson, S. P. Wallingford, Mrs. Cora Fulton, C. P. Mueller, Gifford Booth, and Bruce Griffith.

—After seventeen ballots on the presidency, the Owosso, Michigan, board of education found itself in a deadlock. The candidates are James R. Ketcham and W. H. Vansice.

—The governor of Kentucky has appointed R. E. Settle, Horace Hays, J. F. Nall, J. S. McMurtry, J. R. Ashlock and Mrs. Katie Moberly, members of the Elizabeth (Hardin County) board of education.

—O. O. Wavis was elected a member of the Monroe County (Arkansas) board of education.

—Dr. F. W. S. Raiter and J. W. Stevens were re-elected members of the Cloquet, Minn., school board without opposition.

—Earl E. Best was elected president, and James Q. Blackwood, secretary, of the school board at Newport, Arkansas.

—The board of education of Oxford, Nebr., has elected E. E. Duryee president, P. B. Pettygrove, secretary, and H. M. Pettygrove, treasurer. The other members of the board are T. F. Mackprang, Robert Cropp, and H. L. Lee.

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As important as the school's duty to teach the fundamentals of science, literature, languages, is its mission so to apply the definite principles of Art with a Purpose to the daily contacts of life, that the spontaneous love of beauty shall take the place of the toleration of unnecessary ugliness.

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## SURVEY OF THE CHICAGO BUREAU OF BUILDINGS

In accordance with an order creating a bureau of building survey, the board of education of Chicago has adopted rules governing the functions of the bureau. The rules read: It shall be the duty of the director of building survey to assist and advise the superintendent of schools in carrying out his statutory functions of selecting sites, recommending the location of new school buildings thereon, approving the plans for such buildings, and recommending suitable types of educational equipment for buildings, having in view the educational requirements of the public school system. To that end the director of building survey shall make such investigations and keep such records as may be necessary. Such investigations and records shall include such matters as the status of the existing school buildings and sites, the existing and prospective needs for new sites and buildings as determined by the school population and changes therein, the costs of sites, buildings, and equipment as affecting the extent to which the educational needs can be met with available funds, the progress of construction under way in its effect on the educational plans, and the standardization of floor plans and equipment in accordance with educational needs.

The director of building survey shall act ex officio as building program supervisor, to have custody of the official building program and schedule of the board, to prepare formal recommendations to the board for presentation by the superintendent for changes that may become necessary or desirable from time to time as results of changes in conditions, to prepare a report showing the effect that every proposal

involving expenditure from the building fund not already covered by the official building program and schedule, would have, if approved, on such official program and schedule as then in effect, and in general to keep in touch with the progress made in developing the school plant and to endeavor to secure cooperation and coordination of efforts among all those concerned.

It shall also be the duty of the director of building survey to perform such other services as may be assigned by the superintendent of schools.

Mr. Homer Davis has been elected director of the bureau, on a twelve-month basis, to receive a salary of \$6,500 per annum.

### SCHOOL BUILDING NEWS

—Milwaukee, Wis. The school building program for 1926 provides for the following projects:

First unit of Lincoln High School, \$600,000; addition to Walker Street School, \$240,000; addition to Cass Street School, \$200,000; West Division High School, gymnasium and alterations, \$200,000; addition to North Division High School, \$250,000; addition to South Division High School, \$200,000; Fernwood School, \$300,000; junior high and elementary school, Thirty-eighth Street and Fond du Lac Avenue, \$200,000; total, \$2,190,000.

To raise the money for these buildings the board asks the common council for \$900,000 from bonds and \$1,200,000 from direct taxes in addition to the regular school budget. Granting of the \$1,200,000 is optional with the council, but the bond issue must be granted.

—Moline, Ill. The school plant is at present taxed to its capacity, according to Supt. L. A. Mahoney, and there appears a distinct need for more adequate housing in the face of a possible increase in school population. The superintendent pointed out that during the last ten years there has been an increase of more than one thousand pupils in the schools.

—Indianapolis, Ind. A demand on the part of the public for better school facilities has been revealed as a result of a survey of the school board records for the year ending June 30th, 1925. In a majority of cases, the board has improved the housing conditions, or will do so during the present year. Five delegations of

citizens have presented petitions asking for new buildings, and numerous others have asked removal of fire hazards, improvement of sanitary conditions, and modernization of old buildings.

The present year's program calls for the erection of a twelve-room building at School No. 78; one for School No. 46, and an addition for School No. 34. The board has been forced to reduce its appropriation for grade buildings from a proposed expenditure of \$2,237,000 to \$410,000, because of a lack of funds brought about by the reduction of the tax levy by the state tax board. The board expects to have sufficient funds for the erection of six more grade schools.

—Under the leadership of Wm. F. Eldredge, superintendent of schools, Rockport, Mass., the town voted \$125,000 for a new high school building. The exterior of the building is to be of granite and brick, with wood cornice. It will contain the necessary classrooms, together with a room for manual training, domestic science, lunchroom, combined assembly hall and physical education room, and ample room for a full sized basketball course in the front of the stage. The auditorium will seat approximately 400. The architects are J. Williams Beal Sons, of Boston, Mass.

Mr. Eldredge has been urging this scheme upon the town for several years. The old high school building gave no facilities for modern high school work. The new building promises to give the town a new, up-to-date high school building with accommodations for first class high school work.

—Westfield, Mass. The high school building committee has recently submitted a report for a new high school to be erected at a cost of nearly \$500,000. Final action on the report has not yet been taken, but there is every indication that the attitude of the committee and the city council will be favorable.

—Natchez, Miss. The school board has under construction an \$80,000 building for Negroes. The building will be used for industrial purposes. The bond issue for this building was rather unique for the fact that it was the first bond issue ever carried in the state for a colored school, without being attached to a bond issue for other purposes. Only white voters voted in

(Concluded on Page 90)



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JR227

(Concluded from Page 88)

the election and the issue was carried by a vote of two to one.

The school board has adopted an ambitious program which includes a new high school for white children.

The school board of New Castle, Pa., is confronted with an uncollected school tax of \$28,000, due to the fact that 5,000 men and women who are supposed to pay a personal school tax of \$5 each for 1924 cannot be located.

The public school costs of Indiana have increased from \$13,500,000 in 1923 to \$63,000,000 in 1924. Eighty cents out of every school dollar goes for instructional costs.

Seattle, Wash. Four of the new schools to be erected under the new building program have been named by the school board. The names chosen are Grover Cleveland, Alexander Hamilton, John Marshall and E. C. Hughes. The latter has been named after a former school board member.

The voters of Rochester, Minn., have defeated a bond issue of \$350,000 for the purchase of a new site and the construction of a new central school building. The proposed bond issue was intended to replace an issue of \$225,000 approved on May 25th for the construction of a new building on the present site. With the defeat of the new program, the board will be obliged to proceed with the erection of the building on the old site.

The state fire marshal of Illinois has ordered inspections of all rural schools relative to fire hazards. Special attention has been given to the condition of heaters and furnaces and to the kind and number of exit doors.

Indianapolis, Ind. Changes in the Shortridge High School plans, effecting a reduction of \$225,241 in the total cost, have been ordered by the school board. The changes involve the elimination of a demonstration household, \$3,049; reducing the size of the gymnasium, \$24,300; reducing the width of the auditorium, \$21,812; elimination of military drill hall, \$79,140; elimination of shop department, \$51,840; lowering height of ceilings, \$75,000, and elimination of community library, \$50,000.

The board has adopted a resolution authorizing a \$1,000,000 bond issue to bear interest at

not more than four per cent, for the construction of the Jefferson colored school and the West Side High school.

St. Louis, Mo. Approximately \$5,000,000 worth of school buildings are under construction or contemplated, according to Richard Murphy, chairman of the committee on school buildings of the board of education. The building program provides for the erection of three grade schools, one high school, one intermediate school, three special schools, and an athletic stadium. It is expected the new Beaumont High school will be completed by January first, at a cost of \$1,626,842. The Elias Mitchell School for Crippled Children will be completed this fall at a cost of \$208,812.

The school board of Kansas City, Mo., has announced the completion of plans for a most extensive building program, in order to supply much needed room for an expected increase in enrollment. The new plans provide for a west side junior high school, a four-room addition for the Harrison school, an auditorium and gymnasium for the Mann school, an addition for the Clay school, an auditorium and classrooms for the James school, and a unit building for the northeast junior high school. Work on the west side junior high school will begin this fall, the building to be erected at a cost of \$325,000.

The school board of Paducah, Ky., plans a school bond issue of \$175,000 in anticipation of greater schoolhouse needs.



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### OUTLINING SCHOOL BOARD POLICIES

The board of education of Albert Lea, Minn., by a vote of three to two, C. L. Blunt, J. H. Severson and Oscar Subby voting yes, F. F. Thurston and A. L. Cassem voting no, outlined the following as its policy in managing the affairs of the local schools:

1. To continue the policy of maintaining an efficient and harmonious school organization and teaching faculty that will be a credit to the city.

2. Of continuing a policy of economy in the management and operation of all schools in the district such as has been maintained for the past three years, during which period the net cash assets of the district have increased over \$41,000 per year with a reduction in the tax rate of 3.1 mills.

3. The payment of existing indebtedness as rapidly as possible with the continued reduction of the tax rate and the maintenance of an efficient school system.

4. The reduction of overhead and operating expenses consistent with an efficient administration of a creditable school system.

5. The conservation of present school properties for future use.

6. To make no sale of present school property unless first authorized or ratified by the taxpayers.

7. A continued reduction in school taxes.

8. During this past year certain inimical activities have been apparently conducted by a certain school book salesman whereby there has

been an attempt to create disharmony and disorganization among the school faculty and the school board. We resent such action and it shall be the continued policy of the board to do so and to continue to maintain this policy and not discriminating either between school book salesmen or their companies and to buy books and supplies for the public schools solely on merit, regardless of companies publishing them or individuals representing them.

9. To maintain a policy at all times of consideration of the welfare and best interest of the taxpayer, the resident and the school children of the district; and to entertain and consider with gratitude any and all suggestions that may be offered by any individual or set of individuals for the betterment of the schools.

### ADOPT ECONOMIES AT HIGHLAND PARK, MICHIGAN

In order to keep the school tax rate at \$7.60 per \$1,000 of assessed valuation the board of education at Highland Park, Michigan, found it necessary to adopt many economies. The teachers' salary schedule was unchanged, but several principals have been assigned larger responsibilities, resulting in a net saving on the annual payroll of about \$8,000.

Principal C. W. Mickens was transferred from the Donald Thomson School to a larger one, the Frances E. Willard School, where the principalship had been made vacant by the resignation of E. F. Down, now superintendent of the Ferndale schools. E. F. Quackenbush, principal of the James B. Angell School, has been given the additional responsibility of the Donald Thomson School. The responsibilities of E. H. E. Mumford, principal of the Geo. W. Ferris School, were extended over the Stevens School.

The work of Business Manager R. A. Palmer, who resigned, was divided between Principal E. L. McLaughlin of the Liberty School, who added to his duties the supervision of buildings, grounds, and janitors, and H. C. Daley, director of supervision and surveys, who was made assistant superintendent of schools in charge of surveys, publicity, and business offices.

It is expected that other important economies will be effected with the opening of school in September.

### AMONG BOARDS OF EDUCATION

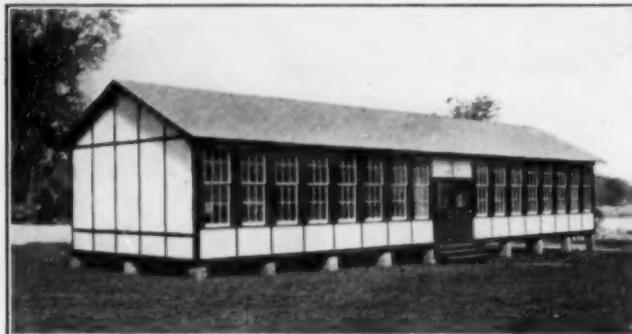
—Superintendent W. F. Webster and the board of education of Minneapolis, Minnesota, had the unusual experience, recently, of being urged to spend more money for school purposes than had been requested. A committee of interested business men appeared before the board of estimate and taxation and convinced that body that several hundred thousand dollars additional should be spent in the next five years for future school building sites.

—The Danville, Ill., Commercial-News sums up the qualifications of a school board member in the following language: "A school director should know the needs of the public school; he should know what qualifications a teacher should possess; he should believe in making the school building the most comfortable and attractive public building in the entire country round about; he should be informed on current questions and be a leader in the community for better schools, for law enforcement, and for decent living. A school director might be all of this and more, and still not be as good a man or school official as he ought to be."

—New York, N. Y. An extension of the age limit for retirement from 70 to 80 years, for officials and employees of the department of education other than teachers, has been recommended by the board of education retirement system. An amendment of the rules is proposed in order to permit employees who have reached the age limit of 70 years to continue in the service for two-year periods, if physically or mentally able to do so, but not beyond the age of 80.

—The school board at Tulsa, Oklahoma, has decided to handle books for high school students direct, rather than through some book company, thereby reducing the cost.

—Webster City, Iowa. Three members of the board of education resigned following their opposition to the election of John E. Smith, to



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succeed E. R. Sifert as superintendent of schools. President J. W. Tatham, W. B. Dodge and B. W. McCoy, resigned, leaving M. R. Mason and W. H. Alkire a minority without power to act, until new members have been elected.

—Lansing, Mich. The headquarters of the board of education have been changed from the City Hall to the Townsend Street School building. Offices have been provided for the business manager, the superintendent and his assistants, a special room for the meetings of the board, and offices for the attendance and vocational departments. Supply rooms have been arranged in the basement of the building with the offices above.

—Bay City, Mich. The board of education voted at a recent meeting that proper legal proceedings be instituted to test the authority of the City Board of Estimates to reduce the 1925-26 school budget.

—Santa Ana, Calif. The trustees of the Paulino Grammar School District have resigned because the county school superintendent refused to approve a demand for \$120 for premium on a liability policy protecting the members of the board in event of serious accidents to children on the school grounds. The superintendent and district attorney hold that trustees are amply protected by law.

—Paterson, N. J. The members of the Women's Central Republican Club have rebelled against a decision of the board of education to fix the age limit for applicants for appointment as school nurses at 35. The school board was asked to reconsider its decision as it is the opinion of the club that one is never too old to be a nurse. The matter was referred to the health welfare committee.

—Utica, N. Y. The effort to keep partisan politics out of the board of education will be continued, according to a letter written by Chairman Harry R. Hayes of the Democratic City Committee to Chairman Frank J. Baker. At present there are three Republican and three Democratic members on the board. The term of two Democratic members will expire December 31st, Dr. Robert Sloan and James E. Mitchell, now president of the board. Both men have given unselfish service and their work on the board has been creditable to the city and to themselves. "Both are willing to continue to

serve on the board if the element of politics is eliminated, but are disinclined to enter a political contest for this non-political office," wrote Mr. Hayes. He further continued, "The Democratic City Committee will pledge itself so far as it can control the situation in the future and so long as this agreement is mutually adhered to, to endorse and support candidates presented by the Republican organization to fill vacancies made by the expiration of the terms of Republican members of the board, to the end that the school board may be continued under its bi-partisan character, and be kept aloof from a political struggle incident to contested elections."

—Erie, Pa. The school board has ordered the removal of playground swings from playgrounds as a result of a number of accidents to children.

—Indianapolis, Ind. Action by school boards barring married women from teaching is in violation of federal and most state constitutions, according to a recent committee report on the women teacher problem, presented to the National Council of Education.

—Rockland, Mass. The members of the school board have been asked to appear before the Supreme Court at Boston in an action brought by O. H. Toothaker, who was recently dismissed as superintendent of schools. Mr. Toothaker alleges he was illegally discharged and that two members of the school board have not had the training or experience to know the highest standard for education, and that they have not visited the schools to become acquainted with the work. The superintendent holds that under his administration the schools have been raised to the highest grade for communities of the same size and classification.

Attempts to depose the superintendent had been in progress for some time, but were not successful until a new man, Mr. Patrick J. Ford, was elected to succeed T. F. Kelley, former chairman and a supporter of the superintendent.

—East Liverpool, Ohio. Following a controversy over the question of Bible reading in the schools, J. H. Brookes, opposed to religious education, resigned as president of the board of education.

—The school committee of Pawtucket, R. I., has decided that the vaccination order shall be

rigidly enforced.

—The school board of Walsenburg, Colorado, has inserted the following clause in its teachers' contracts: "A teacher must not engage in any other employment, temporarily or otherwise, during school months, without permission of the board, and if a female, marriage during the life of this contract, may, at the option of the board, cause said contract to become null and void."

—The school board of Greensburg, Pa., has raised the high school non-resident tuition fee from \$9.60 to \$12.75 per month.

—New York, N. Y. With two exceptions, the standing committees of the board of education will remain unchanged during the coming year, according to the committee on assignments for 1925-1926. The only changes are the addition of William J. Weber and Ralph R. McKee to the committee on care of buildings and Mr. Weber and Mrs. Margaret McAleenan to the committee on bureau of attendance. Mr. Samuel Stern will be continued as chairman of both committees. The committees are finance and budget, buildings and sites, day schools, evening schools, departmental organization, special schools, law, continuation schools and speech improvement, physical training, care of buildings, bureau of attendance, and local school boards.

—New York, N. Y. The board of education has named W. A. Harrison as associate architect, to assist William H. Gompert, at \$7,500 per annum. Mr. Harrison, who succeeds M. W. Metcalfe, is well known among New York City architects and has been for some time a member of the architectural staff of Columbia University.

—State Superintendent John Callahan of Wisconsin, has arranged county school board conventions as follows: Brown—Green Bay, October 20; Chippewa—Chippewa Falls, September 26; Dane—Madison, October 24 and November 27; Douglas—Superior, October 7; Eau Claire—Eau Claire, September 25; Kenosha—Kenosha, December 15; Manitowoc—Manitowoc, November 23; La Crosse—Onalaska, September 22; Marinette—Marinette, November 16; Milwaukee—Milwaukee, December 16; Racine—Union Grove, December 2; Winnebago—Union Grove, October 30; Wood—Wisconsin Rapids, October 4.

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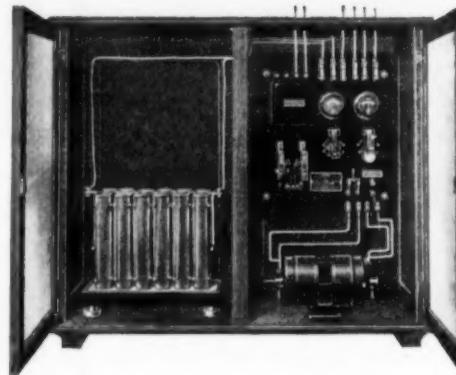


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### A Motor Bus Driver's Contract

Wm. J. Berry, Iowa State Teachers' College, Cedar Falls

The accompanying bus driver's contract is submitted with the hope that it may fulfill a keenly felt need on the part of persons in charge of motor bus transportation in consolidated schools.

Persons in charge of consolidated schools are well aware that a contract with a bus driver performs a different function than that of a teacher, and, therefore, should be quite different in its fundamental characteristics. A teacher's contract should be brief so that she may be able to carry on her work free of hindrance and use to the fullest extent her initiative and professional training. A driver's contract, to the contrary, should have the driver's duties clearly defined so that the interests of the community and the welfare of the pupils may not be abused by persons whose primary interest is not in the school.

A long driver's contract with many clauses which outline very plainly the duties under every condition is for the most part desired not only by the community and the school officials, but by the driver also. To the community it serves as a set of rules and regulations that will not be considered lightly. To the driver it is a guide that may be followed closely. It is a protection in case of controversy and the driver knows that the school board will stand by him so long as the provisions are adhered to.

The present contract was developed for a particular school, and the author knows it will not apply to every school with equal value. Any school board or superintendent who uses the form will necessarily modify it to meet local conditions.

#### Bus Driver's Contract

Consolidated Independent School District of  
Lohrville, Iowa

This agreement, made this 20th day of August, 1923, between Consolidated Independent School District of Lohrville, in the county of Calhoun, state of Iowa, by the School Board, and E. E. Huggins, by bond qualified to act as a bus driver in a consolidated school.

Witnesseth, that the said E. E. Huggins shall serve as bus driver in the said district for a

term of . . . months for the sum of (\$1.25) one dollar twenty-five cents per day plus five cents per mile, the same to be paid at the end of each month, plus a bonus of ten dollars per month, the same to be paid at the end of the period for which this contract is drawn, commencing on the 3rd day of September, 1925. The said E. E. Huggins agrees to fulfill the following general obligations and such special obligations as may be added hereunto by both parties to this contract:

1. To travel each school day over route number one, as indicated by the School Board, and to stop to gather pupils at all stations on that route where there are pupils that attend the Lohrville Consolidated School, and at no other stations on said route unless so directed by the Superintendent or the School Board.

2. To deliver all pupils at the school building not earlier than 8:45 a. m. nor later than 9:00 a. m. However, when the roads are bad, the driver may arrive as late as 9:20.

3. To travel at no greater speed than twenty miles per hour at any time, to exercise special care in going around corners, in passing other vehicles, in crossing fills, and at all times to safeguard the pupils in his care.

4. To file with the Superintendent within two weeks after the opening of school a complete schedule of all stops, and to change same only after consulting the Superintendent and securing his consent.

5. To come to a full stop when taking on or delivering pupils, and to wait only three minutes after the regular schedule time for any pupil to enter the bus. The driver shall sound horn to make known his arrival.

6. To maintain order at all times; to assign to each pupil a place to sit and demand that he sit in the place assigned; to allow the pupils to enter or leave the bus only at the place designated for that purpose; to report to the Superintendent all cases of absence, tardiness, improper conduct or speech, and any other irregularities that may occur enroute. Any failure to suppress disobedience or improper conduct shall render the driver liable to a fine

of fifteen dollars, the same to be deducted from his salary.

7. To use in the bus only the gasoline, oil, and grease provided by the district.

8. To stop and have the bus flagged across all railway crossings. This may be done by the driver getting out and seeing that all is well, or by one of the pupils, previously approved by the Superintendent, to perform that duty. Any failure to comply with this provision renders the driver liable to a fine of twenty-five dollars (\$25) for each offense, the same to be deducted from his salary.

9. To keep the bus clean and sanitary at all times; to leave the bus in the school garage in charge of the master mechanic each morning and evening after returning from the route unless otherwise instructed by the School Board; to inform the master mechanic of defects in the bus which need attention; and in case of a breakdown to remain with the bus and assist the master mechanic until the bus is repaired.

10. To use the bus only for the purpose herein designated unless otherwise instructed by the School Board.

11. To use no profane or indecent language while enroute; to abstain from the use of tobacco while pupils are in the bus and to allow no pupil to use tobacco; to abstain from the use of intoxicating liquors absolutely.

12. To allow no person to substitute for him unless the School Board first approves of the substitute and the Superintendent is informed of the situation.

13. To make such reports to the Superintendent, Master Mechanic, and School Board as may be required.

14. To give the School Board an approved bond of five hundred dollars (\$500) to guarantee the terms of this contract other than covered by the bonus clause and to guarantee proper care of the school property in his control.

15. To give the School Board fifteen days' notice in writing in case he wishes to terminate this contract before the period herein agreed upon has expired. If the driver fails to fulfill this provision he surrenders the right to receive pay for the last fifteen days of service.

16. The School Board shall have the right to change the route at any time it sees fit.

(Concluded on Page 98)



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*Ideal overhead ventilation  
Reversibility for inside cleaning  
Greater light area  
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Better shading facilities  
Simplified frame construction  
Weightless windows*

(Concluded from Page 96)

The attention of the driver is called to Section 3794-ag of the School Laws which sets forth that any driver found guilty of violating any of the rules or regulations of the School Board shall be guilty of a misdemeanor and for the first offense shall be fined not more than ten dollars, and for the second shall be fined not less than twenty-five nor more than fifty and

shall be dismissed from the service. In witness whereof, we have hereunto subscribed our hands this 20th day of August, 1925.

CONSOLIDATED INDEPENDENT SCHOOL DISTRICT OF LOHRVILLE, Calhoun County, Iowa,

FRED MYERS, President.  
O. A. HUNQUIST, Secretary.  
E. E. HUGGINS, Driver.

2,912 different words which were used 23,912 times, or an average of 121 different words per 1,000. There occurred 327 zero words, or an average of 13 per 1,000 words. Inasmuch as Dr. Pressey states that many texts appear to have the vocabulary load at the beginning, this actual frequency check upon the accuracy of the sampling method is an eminently fair one.

In view of the wide discrepancy between a range of 121 different words per 1,000 by actual count, and 533 different words per 1,000 obtained by a sampling of ten words from every tenth page, Dr. Pressey's opinion that the reliability of these thousand-word samplings might be called "fair" is wide of the mark. It is strongly indicative that an attempt to evaluate vocabulary difficulty by taking thousand-word samplings of the vocabularies used, so far as history is concerned is a waste of time, money, and energy. The sampling of words from a book is not analogous to a situation where sampling may be resorted to as a means of reducing reasonable doubt to its minimus, nor can we be hopeful that reliability of the sampling method applied to vocabularies can be increased by taking further thousand-word samplings, to a degree that would justify conclusions of value.

### Measuring the "Vocabulary Burden"

Jesse L. Ward, Superintendent of Schools, Bucyrus, Ohio

It has been suggested in Dr. S. L. Pressey's paper entitled, "A Method for Measuring the Vocabulary Burden of Textbooks," that the vocabulary burden of a book, or other piece of reading material, may be evaluated by taking thousand-word samplings of the vocabularies used. Three methods were used for summarizing the facts with regard to such a sampling from fifteen books, and one newspaper, namely: (a) The range of vocabulary, or the number of different words per 1,000 words sampled; (b) the number of words not occurring in the Thorndike list of the 10,000 most common words, and (c) the weighted median Thorndike "Word Book" index number.

#### The Method

The sampling method used in the Pressey study is as follows: "First of all, the investigator noted the number of pages in the book and the approximate number of words per line; he then estimated the number of pages which should be sampled, taking one line per page, in order to cover 1,000 words, and chose pages so that the sampling would be evenly distributed throughout the book. Thus, if the book contained approximately 500 pages, and there were about ten words to the line, a line on each fifth page throughout the book would make up about a thousand words.

"The total number of different words per thousand was first noted. This gave what has been called vocabulary range. Next, these words were looked up in the Thorndike 'Word Book' and the index number for each word was found. The number of words was now counted in the

thousand-word sampling, not appearing among the most common 10,000 words; these words were listed as zero value words and taken to indicate the size of the technical vocabulary. The weighted median index number was finally calculated. This is simply the median index number with zero value words counted twice, hence the higher the median index number the easier the vocabulary."

#### Results of Method Applied to Two American Histories

Two typical American histories texts were taken as types of reading material used in the sampling method above described. The following results were obtained:

As will be observed, the application of the sampling method to these American histories

Counts.....	Range	Zero Value Words	Weighted Median
American History No. 1.....	1 2	1 2	1 2
American History No. 2.....	533 506	24 30	38 40

Results of an Actual Frequency Count of All Words in the First 100 Pages of American History No. 2.

Burnham's "The Making of Our Country" .....	Range	Zero Value Words	Weighted Median
121	121	13	20

of the same class brought very similar results. The range of different words per 1,000 is around the 500 mark for each. The number of zero words also indicate about the same reading difficulty for each text.

In an actual count of the words in the first 100 pages of book No. 2 history, there occurred

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—Mr. John A. Erickson, of Houghton, Mich., has been elected superintendent of schools at Hillsdale.

—Miss Velda Bamesberger has been employed as director of instruction and curricula of the elementary and junior high schools at Oklahoma City, Okla. The office will act as a centralizing agency, and the work will be carried out through the various supervisors of the schools.

—An increase of \$1,000 has been made in the salary of Supt. C. Edward Jones of Albany, N. Y.

—Supt. John J. Maddox, of St. Louis, Mo., has been reelected for another four-year term, at a salary of \$11,000.

—Mr. D. F. Dickerson, of Atlantic, Ia., has been elected superintendent of schools at Lyon for the next year.

—Mr. J. M. Davidson, of Kirksville, Mo., has been elected superintendent of schools at Odessa.

—Mr. L. W. Montgomery of Bedford, Ind., has been appointed principal of the Union high school at Phoenix, Ariz.

—Mr. D. R. Finley, of Schenectady, N. Y., has been elected superintendent of schools at Hudson Falls.

—Mr. W. T. Carrington, secretary of the board of education of Jefferson City, Mo., and former state superintendent, was given the honorary degree of LL.D. by Teachers' Training College, Springfield, Mo.

—Mr. Vernon G. Mays, formerly principal of the Fergus County, Mont., high school, has been elected principal of the Great Falls high school in the same state. He succeeds B. E. Millikin.

—Mr. John W. Rittenger, of South Bend, Ind., has been appointed to succeed E. E. Ramsey,

as chief school inspector for the state education department. The latter has accepted a position on the faculty of the Indiana Normal School at Terre Haute.

—Mr. T. S. Hook, of Eureka, Nev., has been tendered the office of superintendent of schools at Wayne, Neb.

—Mr. M. C. White has been elected superintendent of schools at Deadwood, S. D.

—The board of education of Oklahoma City, Oklahoma, has elected Supt. J. R. Barton of Okmulgee, Oklahoma, to succeed A. C. Parsons, who retired from school administration on June 30th to enter business. Mr. Barton was selected as Oklahoma City's school executive after several years of successful experience as superintendent of the Okmulgee and Sapulpa city schools, and as professor of education in the Northeastern State Teachers' College of Oklahoma. His educational training includes the master's degree in educational administration from Teachers' College, Columbia University.

A recent honor was his selection as vice-president of the National Education Association at its Indianapolis meeting.

—Ohio. M. H. Sandow has been chosen superintendent for the Gettysburg schools, to succeed W. F. Henney, who goes to Covington. Carl Smith has been elected superintendent at Palestine. The Mineral Ridge school board employed Robert Crozier Stuckert of Kent as superintendent.

—C. E. Mulkey, county superintendent of schools at Marshfield, Oregon, was killed when a spruce fell across his automobile, while driving through Simpson Park. It is proposed that his widow succeed him in the office of superintendent.

—Dr. S. Monroe Graves, superintendent of schools at Wellesley Hills, Mass., was presented with a pair of binoculars by the school staff, on completion of his tenth year of service in the schools. Dr. Graves, in response and in acceptance of the gift, replied that the greatest joy in his professional career has always been the efficient and loyal devotion to service. Dr. Graves said: "Education is a matter of learning to think straight and to place one's affections and actions in the right perspective. Service is a matter of devotion to duty, untiring

energy, efficient planning, and loyalty to truth as one sees the truth."

—Mr. Frank S. Tisdale, who resigned the superintendency of Watertown, N. Y., after 25 years of continuous service, has accepted a position with the Iroquois Publishing Co. He will make his business headquarters at Syracuse and will reside at New Hartford, N. Y.

—Supt. W. M. Oakerson, of Jefferson City, Mo., has been reelected for his eighth consecutive term.

—S. E. Weber has been reelected as city superintendent of schools at Charleston, W. Va.

—Supt. O. P. Flower, of Dubuque, Iowa, will retain his position under a vote of the board of education. By resolution adopted May 23rd, the office was declared vacant, and Mr. Flower appealed to the county superintendent for reinstatement on the basis of his contract which has one year to run. The original action of the board was the climax of a religious controversy.

—Mr. Joseph A. Mahoney of Boston, Mass., was elected president of the High School Associates at a meeting held at Sandwich.

—Prof. L. D. Ash, superintendent of schools at Canton, Mo., has sued Monroe County for back salary of \$750 in the Paris Circuit Court. Mr. Ash, who was superintendent for a term of years, makes his claim on the basis of the state law providing that salaries shall be governed by the population. When women were given the right of suffrage, the population largely increased and salaries accordingly climbed upward. Other officers in the county were given back pay by reason of the increase in population.

—Mr. D. S. Lancaster recently entered upon his duties as secretary to the state board of education of Virginia, succeeding Dr. W. T. Sanger. The position carries a salary of \$4,000 per annum.

—Mr. Claude Lowry of McMinnville, Tenn., has been elected superintendent of schools at Lebanon.

—Mr. M. J. Abbott, formerly principal of the high school at Bedford, Ind., has been elected superintendent of schools of that city, to succeed E. W. Montgomery. Mr. Abbott has had eighteen years of teaching experience and holds degrees from Franklin College and from Columbia University.

## You, too, can cut your maintenance costs

**R**EPAIRS to buildings cost some school boards a lot more money than others. The many schools that have adopted the suggestions on this page, however, are among those whose maintenance costs are lowest.

**Floors**—Walk on a concrete floor and it seems impenetrable. Yet, unless hardened, that floor in time will begin to dust and wear. The dust is very harmful to lungs, clothing and equipment. But the disintegration of the floor that follows in its wake is a worse evil, for it spells expensive floor repairs.

If a concrete floor is treated with Lapidolith, the liquid chemical floor hardener, however, it will never dust or wear. Lapidolith penetrates the concrete when flushed on a floor. It binds the loose particles together, fills the empty spaces, and hydrates the free lime. By chemical action the coarse structure is changed to a fine, dense, even surface of crystalline formation. This surface is permanently dust-proof, wear-proof and water-proof. It needs no further attention. Lapidolith can be applied on either old or new floors. If treated at night

the floor is ready for business by morning.

If your floors are of wood you can avoid a lot of trouble by an application of Lignophol. This preservative dressing penetrates the wood and restores its natural oil and gum. It prevents the wood from rotting, splintering or drying out. It does away with the need for frequent applications of floor oil and produces a smooth, dustless surface that lasts for many years.

**Painted Surfaces**—One paint is very much like another while in the can. The question is, how will that paint look after it has been on a wall for a few years? Therein lies the big advantage in painting with Cemcoat, the gloss, egg-shell or flat enamel paint. For this paint can be washed over and over again, and each time the dirt and grime disappear like magic.

Because of its body Cemcoat usually requires one less coat on a given surface. It adheres to a brick, plaster or concrete wall just as easily as to wood, for it is not affected by free lime. Concrete and mortar always contain this lime, which is fatal to the life of most paints. Cemcoat is made

for exteriors as well as interiors, in white and colors.

**Roofs**—A small leak or a large leak in the roof of any of your buildings can be lastingly repaired with Stormtight. This adhesive, rubber-like coating can be applied by anyone in a few minutes, over any roofing material. At the same time Stormtight will make an entire roof just as waterproof. Many an old roof about due for replacement has been made as good as new by an application of Stormtight, thus saving the owner hundreds of dollars. Stormtight is made in semi-liquid and plastic form, and is packed in containers holding from one gallon up to a barrel.

**Exterior Walls**—If you would have warm, dry interiors no matter what the weather, and if you would preserve the natural beauty of your walls, treat the outside of your buildings with Hydrocide Colorless. This material is a perfect waterproofing for brickwork. It penetrates the brick; it contains no paraffin, and so does not run in hot weather; it collects no dust; it can be painted; and, best of all, its presence on a wall cannot be detected.

Send for literature giving further details on any of these products

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—E. K. Barden goes as superintendent from Livingston to Humble, Texas, which is a larger place. Mr. Barden leaves Livingston clear of debt, the high school fully accredited, and with a record of five years' progressive service. Humble has six buildings, forty-five teachers and fifteen hundred pupils.

—John J. Maddox was re-elected superintendent of the St. Louis, Mo., schools for a term of four years. In making the nominating speech, H. F. Fahrenkrog, a member of the board, said: "You know he has not only been capable, but has been absolutely square in his dealings with the board, with the teaching corps, with the pupils and with the public. He has played no favorites; no considerations of political influence nor of social prestige have swayed him in his official relationships. Under his leadership our public school system has gone forward with the growth of the city and has kept its rank in the very forefront of the school systems of this country and of the world."

—Supt. H. L. Bowman of DeSoto, Mo., has been re-elected for a fifth consecutive term.

—Mr. Harold S. Boardman, dean of the College of Technology, University of Maine, has been made acting president of the University by order of the board of trustees. Dean Boardman will serve until the election of a new president which may not take place until a year hence.

—James R. Skiles, formerly assistant superintendent of schools of Evanston, Ill., has been elected superintendent to succeed E. A. Smith, resigned.

—John E. Erickson of Houghton, Mich., has been elected superintendent of schools at Hillsdale.

—Supt. S. H. Holmes of New Britain, Conn., is rounding out his twentieth year as head of the public schools of that city. Mr. Holmes came to New Britain from Haverhill, Mass., in August, 1905. He has kept pace with the needs of the expanding school system and a number of innovations that have worked out well, have been introduced by the superintendent. A cartoon system introduced several years ago, has proven entirely successful.

—Supt. R. O. Ives of Sullivan, Ill., has resigned to accept a position with the Theodor Kundtz Company.

—Mr. J. B. Tucker, former superintendent of schools at Mulberry, Kans., was arraigned in court on August 3rd, charged with the embezzlement of \$200 from the school athletic fund.

—William A. Greeson, who retired as superintendent of schools at Grand Rapids a year ago, has been made superintendent emeritus in recognition of his long and honorable service to the schools.

—Frank W. Simmonds, formerly superintendent of schools at Lewiston, Ida., has become deputy manager of the American Bankers' Association, state bank division, New York City.

—James R. Coxen, for seven years director of vocational education in Wyoming, has gone to the Hawaiian Islands, where he has taken the position of director of vocational education.

—Augustus O. Thomas, state superintendent of schools for Maine, has been reelected president of the World Federation of Education Associations, which closed its biennial conference on August 3rd at Edinburgh, Scotland. Among the twelve directors named were Walter R. Siders, Pocatello, Ida., and Mrs. Mary C. C. Bradford, state superintendent of schools of Colorado.

—Mr. Clarence L. Wright has been elected superintendent of schools at Huntington, W. Va., for a four-year term. The salary attached to the position has been fixed on a graduated scale, beginning with \$8,000 the first year.

—Mr. L. W. Reese of Columbus, O., has been elected county superintendent of Geauga County, Chardon, O.

—John Enright has resigned from the office of state school commissioner of New Jersey.

—J. R. Barton, who was chosen superintendent of the Oklahoma City, Okla., schools, made it a condition that he would not accept unless he had the support of the entire board of education.

—C. W. Tomlinson has gone from Aurora, Minn., to Shawano, Wis., to succeed W. R. Davies as superintendent of schools.

—Paul R. Spencer of St. Cloud, Minn., is the new superintendent of the Superior, Wis., schools.

—C. F. Dienst has been re-elected superintendent of the Boise, Idaho, schools. The News, in commenting on the action, says: "Superin-

tendent Dienst has taken the public schools into the home, into the business and into the professional office. He has made the educational institutions a big part of the life of Boise, thus putting into force and effect a policy that struck a responsive chord and greatly strengthened the schools in the estimation of the general public."

—Dr. John W. Abercrombie, state superintendent of Alabama, in his annual report recommends "more nearly adequate provision for the elementary instruction of all the children, particularly in the forty-four counties whose school terms are shorter than seven months."

—W. F. Stephenson is the new superintendent of the Payette, Idaho, schools. Alex Monroe is the new school director for district 100, near Cathlamet, Washington.

—Robert H. Brown is the new superintendent of St. Cloud, Minn. He was formerly at Glendale, Montana.

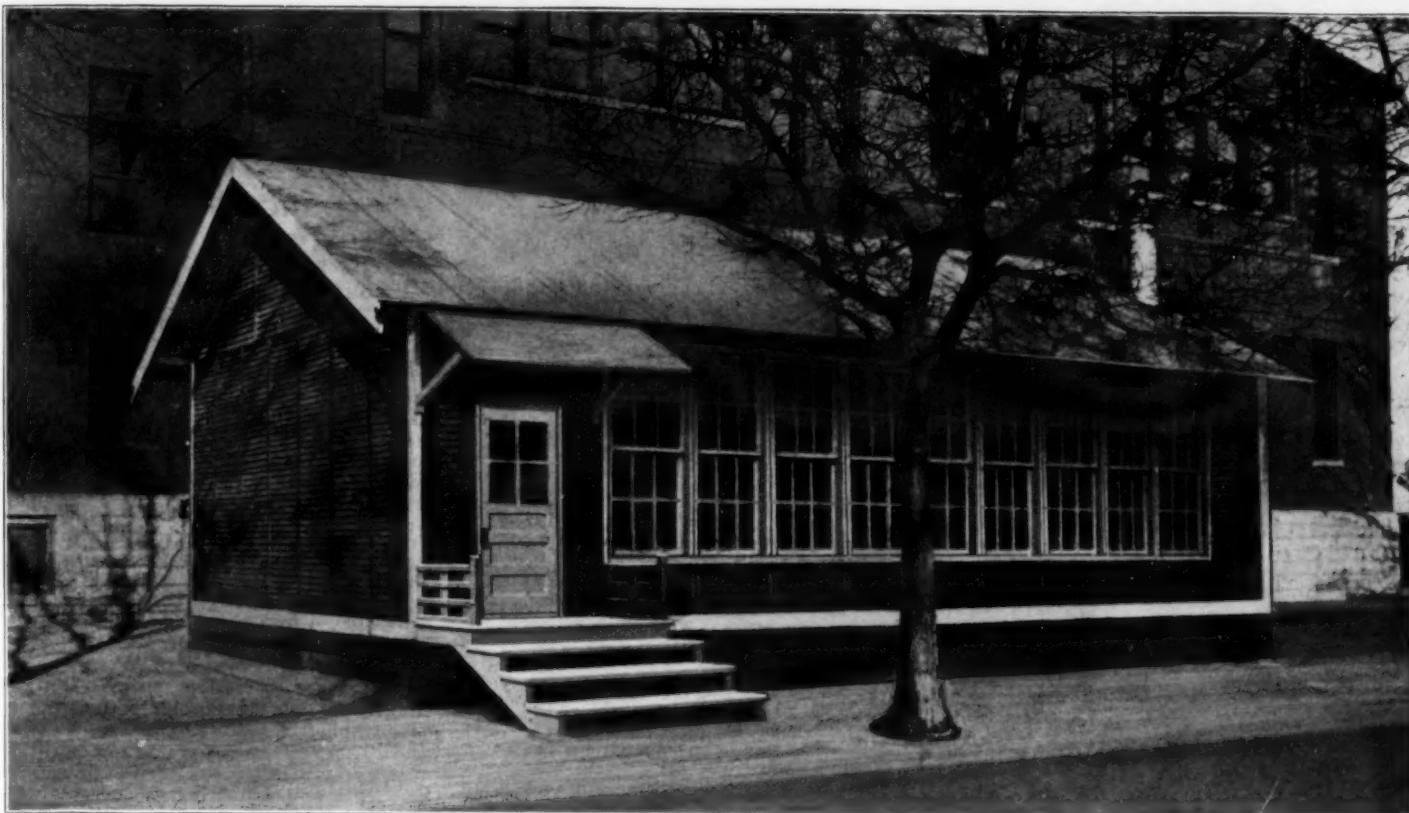
—W. A. Johnson is the new superintendent of the San Angelo, Texas, schools. R. V. Greer has been re-elected superintendent of the Nederland schools.

—John W. Rittering of South Bend, Indiana, has resigned as county superintendent to accept the position of assistant state inspector of schools.

—Superintendent George McCord of Akron, Ohio, has appointed Ralph H. Waterhouse as assistant superintendent of schools. Mr. Waterhouse was at the head of the vocational training department, to which position R. H. Erwine has been chosen.

—When J. DeWitt Jobborn, instructor of the commercial department high school, Bradford, Pa., presented his resignation in order to accept a position at Danville, the school board refused to release him.

—Prof. James Crosby Chapman, of Yale University, a specialist in educational measurements and the author of a number of articles and books on the subject, died on July 15th, at the age of 36 years. Professor Chapman had issued a manual on educational measurements and was active in the organization and application of trade tests to army recruits during the world war. His death removes a personality with brilliant mental powers and closes a brief but unique and productive career in education.



## Circle A Portable Schools Banish Perplexity

The question of whether to build, when to build, and how to build permanent additions to existing school space is a momentous problem, calling for careful planning, mature judgment and frequent consultation with school officials and architects. Many opinions must be reconciled and ways and means must be found.

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Circle A Portable Schools give flexibility to the building program and avoid

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**PORTABLE**

*Circle A Portable Gymnasiums*



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## DeVilbiss Spray-painting System

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—E. D. Purdy, for the past 29 years secretary of the board of education at Waukon, Iowa, will retire as soon as the board selects a successor. Mr. Purdy is past 75 years and is actively engaged in abstract work.

—Supt. E. R. Sifert, Webster City, Iowa, has resigned his position to become head of the Jefferson High School, Minneapolis, Minn.

—A. Earle Hemstreet has resigned his superintendency at Corry, Pa., to accept the principalship of Elementary School No. 40, at Buffalo, N. Y. Mr. Milon L. Brown, for the past five years principal of the Corry High School, succeeds Mr. Hemstreet in the superintendency.

—W. T. Carrington, secretary of the board of education at Jefferson City, Mo., was given an honorary LL.D. degree by the Teachers' Training College at Springfield, Mo.

—May E. Francis, state superintendent of public instruction of Iowa, has announced the appointment of Miss Elizabeth Hutchinson of Des Moines, as inspector of high and grade schools of the state.

—Vernon G. Mays, for the past two years principal of the Fergus County High School, Lewiston, Mont., tendered his resignation at a meeting of the trustees. On August 1st Mr. Mays assumed charge of the Great Falls High School.

—Mrs. Cora L. Eastman, after teaching for 37 years in the Rock Island, Illinois, public schools, spending fifteen of them as assistant principal, has resigned her position and will reside with her son in Chicago.

—John S. Shaw was reelected president of the board of education at Newark, Delaware. Harrison Gray was reelected vice-president, and J. Herbert Owens, superintendent and secretary.

Robert S. Gallagher is the other member of the board. Miss Hannah Lindell was reelected clerk to the board.

—Mr. G. Sidney Leach, supervising principal at Glen Rock, N. J., for more than seven years, has resigned to accept the position of grammar school principal at Newark, N. J. Mr. Leach has been succeeded by Mr. L. N. Neulen, who recently completed work for a doctor's degree at Columbia University summer school. Mr. Neulen also holds an M.A. degree given by Teachers' College.

The position of clerk of the board, formerly filled by Mr. Leach, has been given to Mr. G. H. Cummings of Glen Rock.

—Ralph H. Waterhouse, formerly head of the vocational training department in Akron, Ohio, has been appointed assistant superintendent of schools.

—Mr. John H. Mahoney has been appointed a member of the Boston Schoolhouse Commission. He replaces Thomas P. Glynn. Mr. Francis J. Turnbull has been selected as heating engineer for the commission.

—Tom C. Sawyer has been appointed director of handwriting for the Milwaukee, Wisconsin, schools. He comes from Indianapolis, Indiana, where he filled a similar position.

—At the annual school election in Mankato, Minn., the four directors whose terms expired were reelected. This shows the community's confidence in the ability of their board members. The directors reelected are Mrs. B. D. Smith, Gustaf Widell, Adolph Mueller and W. D. Willard.

—S. Robertson Winchell, 80 years old, who for many years was identified with the educational and editorial interests in Chicago, died on July 14th. Mr. Winchell was for many years publisher of the "Educational Weekly," then professor of Latin at the University of Illinois, and later editor of the Latin and Greek texts for the American Book Company.

—The Dickinson township, near Carlisle, Pa., board of education organized with H. A. Cline as president, M. V. Raudabaugh, treasurer and W. A. McLaughlin as secretary.

—Julius Adams and J. A. Harris, were reelected members of the St. Cloud, Minn., board of education.

—Dr. Minnie C. T. Love and Arthur Weiss are the new members of the Denver, Colo., school board.

—Virginia, Minn. The following members have been elected to the Virginia board of education: Jay O. Bergeson, Mrs. Frances Johnson, Oliver Hole, H. A. Ebmer, A. E. McKenzie, and J. Iver Frazza. Mr. E. T. Duffield is the superintendent of schools.

—Mr. C. A. Waltz, of Xenia, Ohio, has been elected superintendent of schools at Greenville.

—Mr. H. M. Jeffords, of New Milford, Conn., has been elected superintendent of schools at Wallingford.

—Charles A. Minton, who has been a member of the Red Bank, N. J., board of education for many years and who for the past thirteen years has been secretary of the board, refused reelection to the office, due to pressure of other business. Japhia Clayton was selected as Mr. Minton's successor. Mr. Albert S. Miller succeeds Mr. Minton as vice-president of the board.

—Dr. J. E. Robins, president of the board of education at Charleston, W. Va., has been reelected. Mr. Robins was declared, at the meeting, "the most efficient president the board has ever had." E. A. Babcock has been reelected secretary and treasurer of the board.

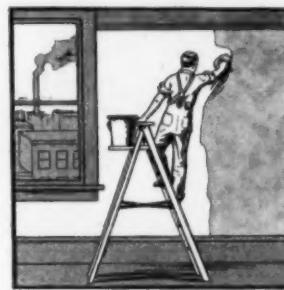
—Mrs. F. W. Richter has been reelected as a member of the board of education at Niles, Michigan. The following officers for the board of education have been reelected. President, A. W. Hudson; Secretary, J. Walter Wood; treasurer, Dr. W. I. Tyler.

—At the annual school election held in Wyandotte, Mich., Fred E. Van Alstyne and M. W. Lacy were reelected without opposition for terms of three years. Both have completed six years of service on the board.

—At the annual school election in Pontiac, Mich., Mr. C. O. Tillson, a member of the board for the past three years, has been reelected for another three-year term. Mr. W. M. Brewer has been reelected as president for the ensuing year. Mr. Brewer has been president for the last three years, and during his administration a large building program has been carried through to success and other progressive steps taken.

## THREE MONEY SAVERS FOR SCHOOLS

You'll be surprised at the big saving in fuel made possible by Tropical Boiler Seal. It will also increase the efficiency of your boiler by enabling you to get more steam per ton of coal burned. The Fairmont Packing Co., wrote us: "In one month we noticed a saving in fuel equivalent to the cost of the Boiler Seal including application."



The appearance of wood floors in school buildings is a problem, because of the hard wear they receive. A dressing, therefore, that preserves these floors as well as improving their appearance is essential. Waxolene meets this requirement and besides is a disinfectant, preventing vermin from infesting a building. It also keeps dust from rising.



The interior of your building will be kept remarkably bright and clean with Tropical Cleaner. Besides it will effect a worth while saving in your cost of cleaning. One pound will do as much work as four to five pounds of soap in any form and do it more efficiently. It is a general purpose cleanser for windows, floors, woodwork, painted walls, desks, etc.

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### A DEFENSE OF MARRIED WOMEN TEACHERS

Mrs. Mary Morse, president of the Civic Club of Buffalo, N. Y., makes the following defense of married women teachers:

"The question is not whether a teacher is married, but whether she is efficient as a teacher. If a woman has been trained and has fitted herself for a certain profession, marriage does not take that knowledge or training from her. Moreover, the fact that she goes back to that profession indicates that she is especially interested and suited to fill the position for which she has fitted herself. Most women who have left a profession return to it because of some economic pressure. It means that they need their profession, and therefore will do everything in their power to adequately and even enthusiastically carry out the work which they have entered."

### TEACHERS AND ADMINISTRATION

—Suit has been filed in the Marion Circuit Court, Indianapolis, Indiana, in behalf of Grace Duzan, Jane Graydon, Laura E. Hanna, and other teachers "similarly situated," against the board of school commissioners, the trustees of the Indianapolis teachers' pension fund, and John Duvall, treasurer of the fund, in opposition to the merger of the Indianapolis teachers' pension fund with the state teachers' fund. The suit seeks to enjoin the trustees from turning over the assets, records, and books in compliance with the action of the trustees. The suit alleges that the action of the school board would be in violation of the Bill of Rights of the Indiana Constitution, which provides that no rights or property are to be taken by law without compensation. It alleges that the contractual rights of the plaintiffs as found in the

pension system would be violated by the transfer, because the contract rights of all the teachers of Indianapolis would be violated.

The transfer was approved by a vote of the city pension trustees, over the negative votes of Miss Laura Donnan and Miss Belle O'Hair. Those who fought for the merger contended that the city system was on a less sound actuarial basis than the state system. The Indianapolis fund has assets of \$371,000 and these will be transferred to the state fund.

—According to a report of the State Department of Education of Indiana, there will be a noticeable shortage of high school teachers in September. This is attributed to the fact that high school teachers are required to have three years of college training for a second-class license and four years for a first-class license. Grade school teachers are more abundant than positions, and in some counties the superintendents have nearly twice as many applicants as they can give jobs. Music, art and domestic science teachers are in great demand, while there is a surplus of English, Latin, and history teachers.

Reports to the state officials indicate that there will be comparatively few changes in administrative positions. The average salary of the grade school teacher is \$100 and that of the high school teacher \$150.

Applications for positions for sixty retired teachers have been received by the department, but it is not known yet what action will be taken on the applications.

—There is a much bigger supply of teachers in Iowa this year than usual. According to Miss May E. Francis, state superintendent of public instruction, "Even many people with college degrees are having trouble getting jobs this year." The biggest demand is for teachers of home economics, but there are two or three applicants for every vacancy of this kind.

—Chicago, Ill. The Chicago teachers have protested against a proposal by Supt. Wm. McAndrew to restrict their absence privileges, as suggested by the school auditors. Chief among the objectors is the Chicago Teachers' Federation. McAndrew's revised code would "dock" teachers, according to their pay scale, and allow him to place on the unassigned list teachers absent without leave more than ten days.

According to a report made by Messrs. Griffenhagen, accountants and school auditors, the teachers' absences were costing the Chicago board of education one million dollars annually, partly through abuse of lenient regulations.

### MINIMUM SALARY SCHEDULE IN TENNESSEE

An average increase of \$180 annually in Tennessee elementary schools is provided under the new schedule announced by the state board of education, Nashville, Tenn. N. C. Beasley, chief clerk in the office of P. L. Harned, state commissioner of education, pointed out that in previous years there had been no salary schedule and elementary teachers received an average salary of approximately \$460 annually, while under the new schedule they will receive \$640, minimum.

In the schedule, the salaries are divided into six major groups, according to the qualifications of the teachers, and each of those major groups is subdivided according to the type of certificate held by the teacher.

Under the new schedule the pay depends largely upon the professional training of the teacher and the best prepared earn the highest salary in every instance. The others receive pay in accordance with their educational qualifications.

Counties sharing in the distribution of the state equalizing funds will be compelled to follow the salary schedule.

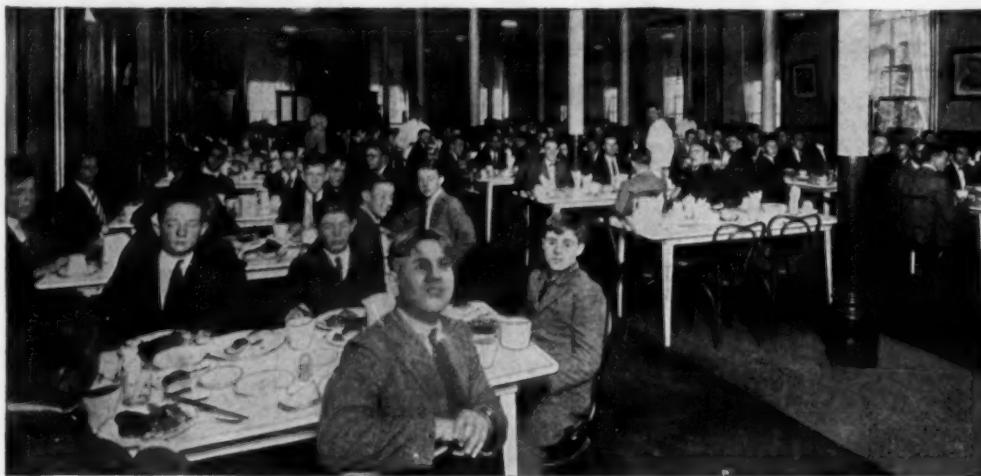
Following is the complete schedule:

Class A Teachers: Consisting of those who have completed a standard four-year high school course and hold a bachelor's degree from a standard four-year class A college.

Certification      Beginning Salary

1. Permanent professional certificate .....	\$100 to \$105
2. Four-year professional certificate .....	75 to 85
3. Limited training or examination certificate .....	70 to 80
4. Temporary teaching permit .....	60

Class B Teachers: Consisting of those who have completed a standard four-year high school course and have completed in addition not less than 144 quarter hours credit in a standard college.



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Sani equipment is *economical*. The long life of Sani equipment—the elimination of replacements and repairs—the saving in time—the saving in operations, make in the most economical equipment on the market today.

If you are planning a school cafeteria installation, write to the nearest fixture supply house or to this office, for information. Be sure to send in outline drawing showing dimensions of the room.

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Canadian Factory: 284 St. Helens Ave., Toronto, Canada

Selling Organization for Marietta Manufacturing Co. and Chicago Hardware Foundry Co.

Also — the location of doors and windows, interior columns if any, and state number of persons you desire to serve at one time. We will furnish you a blue print free of charge. Write today.

Certification Beginning Salary

1. Permanent professional certificate ..... \$100 to \$105  
2. Four-year professional certificate ..... 85 to 95  
3. Limited training or examination certificate ..... 70 to 80  
4. Temporary teaching permit ..... 65 to 75

Class C Teachers: Consisting of those who have completed a standard four-year high school course and have completed in addition not less than 96 quarter hours credit in a standard college.

Certification Beginning Salary

1. Permanent professional certificate ..... \$75 to \$85  
2. Four-year professional certificate ..... 65 to 75  
3. Limited training or examination certificate ..... 60 to 70  
4. Temporary teaching permit ..... 45 to 50

Class D Teachers: Consisting of those who have completed a standard four-year high school course and have completed in addition at least 48 quarter hours credit in a standard college.

Certification Beginning Salary

1. Four-year professional certificate ..... \$65 to \$75  
2. Limited training state certificate ..... 60 to 70  
3. Limited training county or examination certificate ..... 55 to 65  
4. Temporary teaching permit ..... 40 to 45

#### For High School Graduates

Class E Teachers: Consisting of those who have completed a standard four-year high school course.

Certification Beginning Salary

1. Limited training state certificate ..... \$55 to \$65  
2. Limited training county or examination certificate ..... 50 to 60  
3. Temporary teaching permit ..... 35 to 40

Class F Teachers: Consisting of those who have completed less than the equivalent of a standard four-year high school course.

Certification Beginning Salary

1. Four-year or permanent examination certificate ..... \$45 to \$60  
2. Two-year examination certificate ..... 40 to 55  
3. Temporary teaching permit ..... 30 to 40

#### Additional Advancement

An additional \$2.50 per month may be allowed for attendance, after May 1st, 1925, for at least six weeks at any summer school approved by the state board of education, provided the teacher receives at least six quarter hours credit, and \$5.00 may be allowed for attendance for a full quarter, provided the teacher receives at least twelve quarter hours credit.

An additional \$2.50 per month may be allowed for each year of experience for a maximum of five years for class B, C, D, and E teachers. An additional \$2.50 per month for each year of experience for a maximum of six years may be allowed class F teachers. An additional \$5.00 per month may be allowed for each year of experience for a maximum of five years for class A teachers. (A year's experience prior to July 1st, 1925, shall be the total number of days the schools were open during any scholastic year, but subsequent to July 1st, 1925, not less than eight months shall constitute a year's experience.)

Five dollars per month may be allowed in addition to the above for a teacher who has charge of a one-room school.

In fixing the salaries of principals of schools of more than one teacher, \$5.00 per month may be added for each full-time assistant teacher to a maximum of five.

No fractional parts of years of experience, units of credit, or other fractions shall be considered in fixing the salary of any teacher.

Boards of education, in fixing salaries, may reduce the salaries herein made if, in their judgment, lack of efficiency on the part of the teacher warrants such action.

#### BRIDGING OVER A DEFICIT

The board of education of New Orleans, La., has used an interesting method of bridging over a deficit in its school budget of 1924-25. When the annual budget was made up for the school year, there was not money enough in sight to pay the teachers their usual ten months' salaries

and to cover the twelve months' salaries of the officials. The board of education, therefore, guaranteed nine monthly payments to the teachers and eleven monthly payments to the officials with the understanding that any surplus at the end of the fiscal year should be distributed pro rata to all employees. By careful management it was possible to have a surplus of \$60,000 in the school treasury and this was distributed to the teachers and officials of the schools. The payment amounted to 17.2 per cent of the tenth month salary for the teachers and of the twelfth month salary for the officials.

The board of superintendents of New York City has recently ruled that a principal whose school is reduced in size will suffer a loss in salary. The salaries in New York City are based on the number of divisions or classes, and a principal whose school is reduced from 57 to 45 divisions must suffer a loss in salary classification as a means of overcoming this ruling of the state law and of the board of education ruling principals whose schools are reduced in size are placed on a preferred eligible list from which they are assigned to a larger school as soon as a vacancy occurs.

St. Paul, Minn. Public school teachers are asking for an increase in salaries for next year. They also ask for a change in regulations to permit a semester off at half pay, and that the same pay be given teachers of the same educational qualifications whether they teach in the high or the grade schools. Their requests call for a hundred dollar increase for each teacher in the system. This would involve an increase of about \$120,000 per annum.

The teachers stated that they should receive the same salaries in St. Paul as Minneapolis now pays. There the maximum salaries for grade and high schools are \$2,000 and \$2,500 respectively. In St. Paul the maximum salaries paid are \$1,700 in the grades and \$2,000 in the high schools.

Utica, N. Y. The salaries of substitute teachers in the grade school have been increased from five dollars a day to six and one-half dollars a day, and that of substitute teachers in the academy from six dollars to seven dollars and fifty cents.

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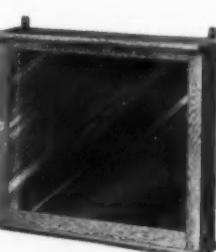
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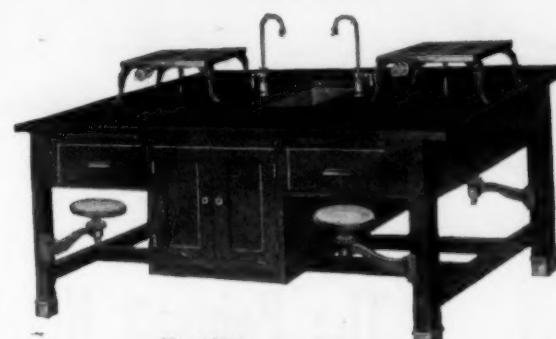
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### ESSENTIALS OF SCHOOL ADMINISTRATION

—Dr. Wm. H. Holmes, superintendent of schools, Mount Vernon, N. Y., at a public meeting, recently discussed the essentials of an efficient school system. He held to the following as essential factors:

1. Good school board members: Business men of whatever business or profession, who are big enough and broad enough to catch the vision of what is important for the good of children.

2. Superintendent of schools: A man big and fair and educated to the work; a man who has so completely the confidence of the school board that he is allowed to elect the teachers; prepare the courses of study, and recommend the textbooks.

3. A well trained body of teachers; professionally minded teachers. Such a teacher works ever for the good of those in her care. She is never a time server.

4. A loyal clientele of men and women willing to work to support the schools; the parent-teacher organizations prove this. There is nothing of more value in making good schools for otherwise the schools may go over to political and selfish interests.

5. Money to "carry on."

#### WHO SHALL BE SCHOOL CHIEF?

"The necessity for the board of education to recognize itself as a judiciary and legislative rather than as an executive body can not be overstressed. All employees of a local school system should be, by all means, selected by the superintendent of schools."

So said Prof. John Guy Fowles of the University of Wisconsin in a report dealing with

the schools of Racine, Wis. He continues: "It is no longer possible to pigeon-hole the duties of the chief school executive into 'business' and 'educational' compartments. It is the function of education to equip boys and girls in such a way that they may later live successfully. All money expended for public education is supposed to serve this purpose. It is imperative for the completest realization of this goal of public education that the administrative authority be centered in one office. This office of centralized authority should be the office of superintendent of schools. No attempt should be made to enumerate and specifically define the detailed functions of the superintendent.

"Members of a board of education are directors of a large corporation, and should apply the principles of good corporation management to educational affairs. Their executive officers should have authority and be held accountable for the work.

"Its duty is to see that the schools are properly managed and not to manage them itself.

"As running a school system is an expert business, directed to one end, the education of children, it should be managed by an expert manager, and that manager must be an educator."

#### WHY A SCHOOL BOARD MEMBER?

In answer to this question, Lee M. Hutchins, member of the Grand Rapids, Michigan, board of education, recently said:

"My first reason is that as a red-blooded American citizen with the leading interests of our community very much at heart I deem it the duty of a man in mature years to accept one or more such positions as an attempt to discharge the obligations which he owes to the community in which he lives." Mr. Hutchins says, "We all are indebted more or less to the public schools of our country for their accomplishments in many directions.

"In the next place, the board of education is the governing body of our school system and that system has to do with putting into the individual life the principles which not only make for individual safety and accomplishment, but which result in a more accomplished and higher grade of citizenship.

"In the next place I regard that if a man has such a thing as the educational system in his heart, mind and soul he should do his part, because, outside of personal satisfaction, it really is a reasonable sacrifice as to time and effort and best of all is wholly without financial remuneration.

"I am more and more impressed with the conviction that not enough constructive work is done by those interested in our schools and by that I mean among the parents of the children and the taxpayers at large. It is an acknowledged fact that there is a general lack of comprehension and appreciation of what is being done for the school children of our community and of what great opportunities are unfolded to them by interesting them in varied branches of instruction. It needs only a visit by the parents to our schools. What we call education based on a solid and moral foundation is not only the bulwark, but the salvation of coming generations.

"Finally, I have a confession to make, and that is, having become acquainted to a considerable extent with the work of the board and the systems of instruction, I find somewhat to my surprise that I can see further while I am on the inside looking out than I could when I was on the outside looking in. I have more clarity, more respect for the board of education, its labors and the systems of instruction in Grand Rapids than I have ever had before."

#### WHAT THE ERIE SCHOOL BOARD DID

"The board of education of Erie, Pa., has adopted a unique plan of keeping the public in good humor," says the Knoxville, Tenn., Sentinel, and then adds:

"Contrary to the habit of boards of education, it assumed, in view of the fact that schools are maintained by the public money, that the public had a right to know all about the public school system. So it proceeded to lay the cards on the table, face up, and to keep the public informed.

"After a while the public woke up to the fact that the schools really belonged to it and began to take an interest. Then it began to feel responsible. Then it began to realize that this board of education was not a band of robbers and thieves seeking whom it might devour, but

(Continued on Page 113)

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(Continued from Page 110)

an earnest servant seeking the support of its employer.

"Then they got together and talked things over and decided that the Erie school system needed two and a half million dollars for new school buildings and out of 125,000 voters only 562 voted against spending this vast sum of money. Without the feeling of good will the voting result would have been far different. Many boards of education would do well to pattern their attitude after that board of Erie, Pa."

#### A WISCONSIN SCHOOL BOARD CONVENTION

The Iowa County, Wis., school board convention held at Dodgeville, was attended by 100 school clerks, a similar number of trustees, and some fifty school treasurers. There were also over 100 visitors who came as friends of the rural schools. County Superintendent Lillian Ellis presided.

State Supervisor of Rural Schools Geo. S. Dick of Madison, discussed the new and revised school laws, explaining them in detail to the delegates. He emphasized the fact that great care should be taken in the selection of qualified teachers. Later a question box was opened and topics of vital interest to various members were discussed.

R. E. Hoskins gave an interesting talk concerning the needs of rural school buildings and the necessity of improvement. Mr. Hoskins visits every county in the state and he states that Iowa county has the poorest buildings of any in the state. He emphasized the point that a large portion of the children who attend the rural schools receive no further education and that it is imperative that the school conditions in the rural school be the best that the district can afford.

#### ADMINISTRATION NOTES

—Providence, R. I. A department of attendance has been created, to be under the superintendent of schools and in the general charge of the executive committee. It will consist of a director, one supervisor and ten assistants. The director is to be truant officer. The supervisor and assistants will be nominated by the superintendent, who must submit his recom-

mendations to the executive committee for approval.

—Bethlehem, Pa. The annual report of Miss Gertrude O. L. Dustin on the cafeterias in the Liberty High and South Junior High schools showed that the approximate number of orders served at the Liberty Cafeteria during the past year was 610,028 and at the South Side Cafeteria, 86,288. The estimated per person average amount spent daily at both cafeterias was fifteen cents. The report shows that the average daily amounts received for the lunches at the Liberty High School was \$96.64 and at the South Side High School, \$14.91.

The report also showed that while the school cafeterias are not run for a profit, and in spite of the fact that food is sold to students at prices as low as is consistent with good management, there was still left at the end of the year a balance of \$203.32.

—The board of education at Pomeroy, Ohio, tried to force the teachers to sign a nine-month contract for eight months' salary. Practically all the teachers are unanimous in their stand against the demand and the various parent-teachers' associations have taken a decided stand in favor of the teachers.

—Year-around instruction will be given in the high schools of Fort Worth, Texas, under a plan inaugurated by the board of education and approved by State Superintendent S. M. N. Marrs. At least 25 per cent more high school students can be accommodated under this plan.

—Reports compiled by the board of education of Newark, N. J., show that there has been a loss in summer school attendance at all-year schools. A total of 27,977 children were present in the schools this summer, including 15,670 pupils in summer schools and 12,307 attending the fourteen all-year schools.

While several schools made a gain in attendance over last summer, the net decrease in the all-year system as a whole was 817. Belmont Avenue, which had a decrease of 131, the largest recorded, attributes the change to several causes; namely, a loss in school population, a loss in old residents, and a change in the source of supply. The next largest decreases were at Lafayette, where 93 fewer pupils are recorded and McKinley, where 87 fewer attended than at the same time this summer.

It is noted that while the summer high schools made a net increase in attendance of 124, the elementary schools on the whole showed a decrease of 110, though several individually gained in numbers.

—Newark, N. J. Recommendations providing for two surveys, one of the all-year schools and the other an intelligence survey of the pupils in the schools, are contained in a report presented recently to the board of education. The report was prepared by Dr. M. V. O'Shea of the University of Wisconsin, and Wilson Farrand, of the Newark Academy, who were engaged as consultants to determine the advisability of making a survey of the entire school system or only of the all-year schools. It is recommended that the surveys be undertaken shortly after the opening of the September term. For the surveys it is proposed to bring statistical and educational experts to Newark, who shall be given freedom to secure data at first hand, by tests if necessary, to determine whether the all-year plan actually accelerates the progress of pupils.

The report shows that the all-year schools are inferior to the traditional schools. The problem, however, is extremely complicated because of the bi-lingual, economic, racial, and hygienic factors existing in the districts in which the schools are located, and the whole subject demands a more extended and accurate investigation.

—Dayton, Ohio. A reorganization of the administrative and business departments of the schools has been proposed to relieve the superintendent of business obligations, and to place the business department on a par with the growth and importance of the school system. The office of business manager is to be created, this official to give his entire time to executive work involving the carrying out of the business details.

—The examination of school children in four counties of the state of Indiana has been ordered by H. L. Smith, of the School of Education of Indiana University, for comparative purposes. The experiment is financed by the General Education Board and is intended as a demonstration that the county unit system has advantages over the township system.

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—The school board of Schenectady, N. Y., has raised the maximum salary of elementary teachers from \$1,700 to \$2,000. This increase is granted upon evidence of "unusual ability" on the part of the teacher, subject to the approval of the administrative officials and the board of education.

—The right of a board of education to restrict the admission of children to the public schools on the basis of age, is to be tested in the Wisconsin Supreme Court. A case involving the question has been appealed to the supreme court from Chippewa County.

The question arose in Chippewa Falls where the board had adopted a rule that pupils may be admitted to the first grade provided they become six years of age before the close of the school year. In a suit brought by W. A. King, Sr., to compel the board to admit his son to the first grade, the judge ruled that the board of education had no lawful authority to adopt a rule excluding certain children, and granted a writ of mandamus. The King boy was refused admission to the first grade for the reason that he would not be six years of age until June, 1925, even though he had been given a promotion certificate from the kindergarten in June, 1924.

—The pay of county superintendents in Texas is graded from \$1,600 to \$2,800 a year, based on the number of scholastics in the county. Office expenses are limited to \$300 a year. According to a bulletin just issued by S. M. N. Marrs, state school superintendent, the following increases were authorized:

Dallas County, \$4,800 a year salary, \$600 for office expenses, \$900 for traveling expenses; Harris County, \$4,800 salary and \$800 for office and traveling expenses; Jefferson County, \$3,600 salary and \$300 expense allowance; Limestone County, \$3,600 to \$4,800 salary and \$600 expense money; McLennan County, \$3,600 to \$4,800 salary within the discretion of the county commissioners, office expenses of \$600 and traveling expense of \$600.

The school superintendents of the above five counties will receive much larger salaries than any in the other counties of the state, and much larger than they have heretofore received.

—The school board of Snohomish, Washington, will introduce glass enclosed school busses of the "stage" type, instead of open trucks formerly used for the transportation of pupils. Each bus will accommodate forty pupils.

—When a complaint was lodged against the Indianapolis, Ind., board of education, for failure to re-appoint a principal, it was explained that that body did not make appointments. All appointments are made by the superintendent. The board merely exerts its veto power.

—By unanimous vote the Newark, N. J., board of education has decided to continue the all-year school plan now carried on in seven elementary schools and two high schools. President Peter A. Cavicchia announced that no action to discontinue the plan would be taken until the results for the summer had been definitely estimated.

—A delegation of Newark, N. J., school officials, consisting of Superintendent David B. Corson, Louis Schwartz, Miss Isabelle Sims, Mrs. William H. Osborne, Cephas I. Shirley and Randolph D. Warden, visited Philadelphia recently in a study of playgrounds and recreational facilities.

—Jesse A. Mason, superintendent of schools, Marion, Ohio, in a public address, in New York City, stressed the need of cooperation between home and school, and championed the parent-teachers association. He said: "Our public school system is America's greatest partnership. Parents and teachers are the partners. You, if you are a parent or a taxpayer, are a member of the firm. The parent-teacher organization opens the door for co-operation to all members of the firm. It provides for understanding of our great complex system of education. It provides for combined community effort. This results in greater school opportunity for your boys and girls. In this there is a real stock dividend for all of us," he said.

—New York, N. Y. By increasing the pupil load per teacher for evening high and trade schools, the budget committee of the board of education has kept to a minimum the allowances for these two activities. The total request for both groups of schools was \$1,209,761. The final allowance was \$1,098,552, as compared with the last year's appropriation of \$1,052,093. The net increase for 1926 is fixed at \$46,459. The eve-

ning high school fund was computed upon a basis of a pupil load of thirty and amounted to \$844,379. The evening trade school estimate was based on a pupil load of 22, and amounted to \$254,173.

—The week of November 16-22 has been set aside for the observance of American Education Week in the United States as announced by James A. Drain, national commander of the American Legion, following the formal indorsement by the N. E. A. This year's observance will be the fifth, the Legion having inaugurated it in 1921.

The education week program this year will deal with the seven phases of national education held by leading educators to be the most imperative for the best interests of the country, Commander Drain said. The days of the week, beginning Monday, November 16, are set aside consecutively for Constitution day, Patriotism day, School and Teacher day, Conservation and Thrift day, Know Your School day, Community day, and "For God and Country" day.

—Chicago, Ill. An all-year program for the public schools has been advocated in a recent report of the investigating committee made public by Supt. William McAndrew. The report emphasizes that the plan makes possible a greater efficiency in administration, that losses due to interruption of school work can be eliminated.

It is pointed out that fifteen of the 24 high schools and 257 of the 272 elementary schools are idle throughout the summer. It costs less to operate the schools during the summer as no heating is required, ventilation is secured by open windows, and fan operating systems are not needed.

—Dr. John A. Ferguson, chairman of the building and sites committee of the board of education of New York City, has asked Dr. William J. O'Shea, superintendent of schools, to designate a number of schools in which radio loudspeaker amplification equipment may be installed for experimental purposes. The speakers are to be installed in the auditoriums of the schools and used for the reception of radio broadcast programs of an educational nature.

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## SCHOOL HYGIENE

### STRABISMUS AND DEFECTIVE COLOR SENSE AMONG SCHOOL CHILDREN

In a course of studies in child hygiene by officers of the United States Public Health Service, a large number of school children were tested for acuity of vision and color perception, and examined for various other conditions.

The present study was made under the direction of S. D. Collins, associate statistician of the Health Service, and deals with the sex and age incidence of certain eye conditions and their relationship to visual acuity.

The studies of the eyesight of school children show a remarkable lack of attention by parents to the eyes of growing children and their failure to appreciate the potentially serious import of certain types of visual defect. Especially is this true of strabismus, or squint, so often neglected in the belief that the child will outgrow the condition.

Of cases included in the present study, about four-fifths were internal and one-fifth external in the type of strabismus encountered. The rate for girls was slightly higher than for boys when all ages are considered together. The percentage of children who have external strabismus is practically constant throughout the school ages, showing possibly a slight tendency to increase. It is found that internal strabismus is more prevalent among children under twelve years of age.

As a part of the examination of 12,000 school children in Nassau County, N. Y., New Castle County, Del., Porter County, Ind., Frederick County, Md., and Spartanburg, S. C., the color vision of each child was tested. Naming of the colors was not required, but only the ability to sort similar colors. Inasmuch as the distinguishing of delicate shades was not required, only the more pronounced cases of defective color sense could be found.

In a study of the sex incidence and defective color sense of children, it was found that there were 141 cases, or 1.16 per cent of all ages, afflicted with defective color sense. There were 89 cases among children 6 to 11 years in age, and 52 among those 12 to 16 years. Of the total number of cases, 125 were boys and sixteen were girls.

Defective color sense, it was noted, was very much more prevalent among boys than girls, two per cent of the boys being affected, as against about one-fourth of one per cent of the girls. The defect is not localized in the eyes, but is believed to be due to some defect in the central nervous structure and is usually hereditary.

In a study of defective color sense and visual acuity, it was revealed that the percentage with defective color sense is slightly higher among boys with normal vision. There were eighteen cases of visual acuity, with visual acuity of 20/20 or better in both eyes, and seven cases with 20/30 or better in one or both eyes. The percentage of cases with defective color sense was 2.16 in the first case, and 1.86 in the second case. There did not appear to be any good reason for a higher color blind rate among children with good vision, the data at hand indicating that as large a proportion of children with normal vision as determined by tests, have defective color vision as of children with defective vision. Defective color sense of the type found among school children did not seem to be associated with visual acuity.

### RULES FOR SWIMMING POOLS

The committee on otorhinologic hygiene of swimming of the American Medical Association has issued a set of rules for maintaining the sanitation and safety of swimming pools. The rules are as follows:

1. All swimming pools must be maintained with a practical minimum amount of contamination. There should be not more than 1,000 colonies per cubic centimeter of standard agar medium after incubating for twenty-four hours at 37 F. The *B. coli* content should be such that gas is produced in not more than one and a half of standard lactic broth cultures after incubation for twenty-four hours with 1 c.c. of water.

2. Water in the pool must at all times of use be sufficiently transparent, under existing lighting conditions, that when the water surface is not excessively agitated by bathers, a person can stand at the side of the pool and see the bottom distinctly where the depth of water is 6 feet or less.

3. Facilities for adequate protection of the pool water against unnecessary sputum contamination by bathers must be provided.

4. All persons known to be or suspected of being affected with infectious diseases will be excluded from the pool.

5. Contamination of the pool resulting from lack of personal cleanliness of bathers will be maintained at a minimum.

6. Construction and appliances must be such as to reduce to a practical minimum the danger of drowning and of injury to bathers from falls or collisions.

7. Dressing rooms, hallways, toilet rooms, and other places to which patrons of a bath house have access must be kept clean and well ventilated at all times.

8. Bathing suits and towels, when distributed to bathers by the pool management, must be clean and free from excessive bacterial contamination.

9. The management of the pool shall have printed and posted in conspicuous places about the establishment notices briefly informing patrons of the requirements to which they are subject in the maintenance of a safe and sanitary pool. A form of notice is suggested to pool operators; it should be so placed that all bathers cannot fail to read it before entering the pool.

### MOUTH HYGIENE WORK AT McCOMB, MISS.

Mouth hygiene work, as carried on at McComb, Miss., was the subject of a talk given by Miss Margaret Bailey, at a meeting of the State Dental Association on May 12th. Miss Bailey in her talk, explained that three cleanings and examinations a year are made in each of the first four grades. As there are about 800 children in these grades, it is readily apparent why the work is confined to these grades.

The equipment for the work consists of a McCombel chair, a Castle sterilizer, table and instruments, all of which are transported by

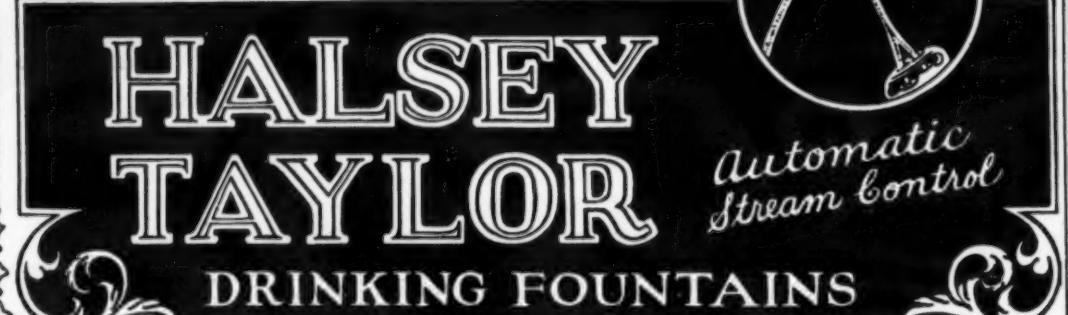


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truck from one building to another. The work starts in the first grade and is carried on successively to and including the fourth grade. When a child pays his first visit, a card is filled out showing the name, age, grade, etc. At one end of the card is a diagram for the teeth, where all defects are noted. The card contains space for a period of five years and offers a complete record. A strict follow-up is maintained to see that the necessary corrections are made.

Of the 800 children examined in the four grades, the first visit disclosed seventeen per cent without any dental attention. A second visit showed that twelve per cent had visited the dentist as a result of the visit, and a third visit showed an additional twelve per cent, so that altogether 24 per cent of the children have had the necessary corrections made. It is believed that a five-year trial of the plan will be necessary in order to show any decided improvements.

McComb City schools are recognized as the pioneers in the South in employing a trained mouth hygienist to demonstrate what may be done in caring for the teeth of elementary school children. The mouth hygiene work was placed in operation with the aid of the state board of health and other school systems in the state are this year following McComb's example.

### HYGIENE AND SANITATION

—A mental health survey of 3,000 Staten Island, New York, school children, made by the National Committee for Mental Hygiene, has revealed that there are marked physical, mental, and social handicaps; that there is a large number of children in need of mental hygiene service; that the facilities for treating mental health problems are few, and that there is a thyroid district due to the local water supply. Of the children examined, only 40.3 per cent were of average intelligence. Excluding the continuation and vocational schools, 3.6 per cent were feeble-minded, 9.2 per cent were of borderline intelligence, 16.8 per cent belonged to the dullard group, 43.6 per cent were of average intelligence, and 26.1 per cent were of superior intelligence. In the continuation and vocational schools, a larger percentage were mentally subnormal.

—Springfield, Ill. Dr. R. V. Brokaw, city superintendent of health, has been recommended for the position of supervisor of hygiene in the public schools. The office is in line with a new health program under which the work of the health department of the school system is coordinated with the city health department. The director will be in charge of five school nurses.

—The State Department of Health of New York has adopted a resolution to give school children the preventive inoculation of toxin-antitoxin and the Schick test. No child will be given the inoculation or the test without the consent of the parent or guardian. The expense of the inoculation and test is borne by the state.

Boards of education have been asked to provide suitable quarters in the schools and to circularize consent slips to the children by classroom teachers under the direction of the district state health officer.

—Dr. Frank S. Boyer, chief medical examiner of the Allentown, Pa., schools reported that fifteen thousand pupils were examined during the past school term, 3,033 of whom were found to have physical or mental defects. Of this number 1,308 defects were treated. There were 1,080 cases of eye defects, 175 cases of defective hearing, 949 cases of enlarged tonsils and adenoids, 45 cases of defective speech and 15 cases of heart trouble. Measles led in the number of contagious disease with 760. There were 101 cases of diphtheria, 169 of chicken pox, 18 of mumps, 163 of whooping cough and 37 of scarlet fever.

—A recommendation that the department of preschool child health work be placed under the direct supervision of the department of health and medical inspection is contained in the annual report of Miss Dora Maiben, supervisor of this work in the public schools of Salt Lake City, Utah. During the past year 2,229 preschool children were examined, one thousand of which were classed as in good condition and the others were found to have one or more defects needing attention of the family physician.

—Nearly fifty open-air schoolrooms have been established in Illinois, according to the officials of the state health department. The newest open-air room will be opened in Springfield, in the fall, as a result of the action of the school

board cooperating with the Sangamon County Medical Society. Undernourished pupils and pupils convalescent from acute or infectious diseases will be taken into the new school. No active tubercular cases will be accommodated. The school will be housed in a portable building costing approximately \$3,000 and a like sum will be expended for equipment and the salary of the teacher for one year.

Officials of the state health department say the absentee records in open-air schools are much lower than those in enclosed rooms.

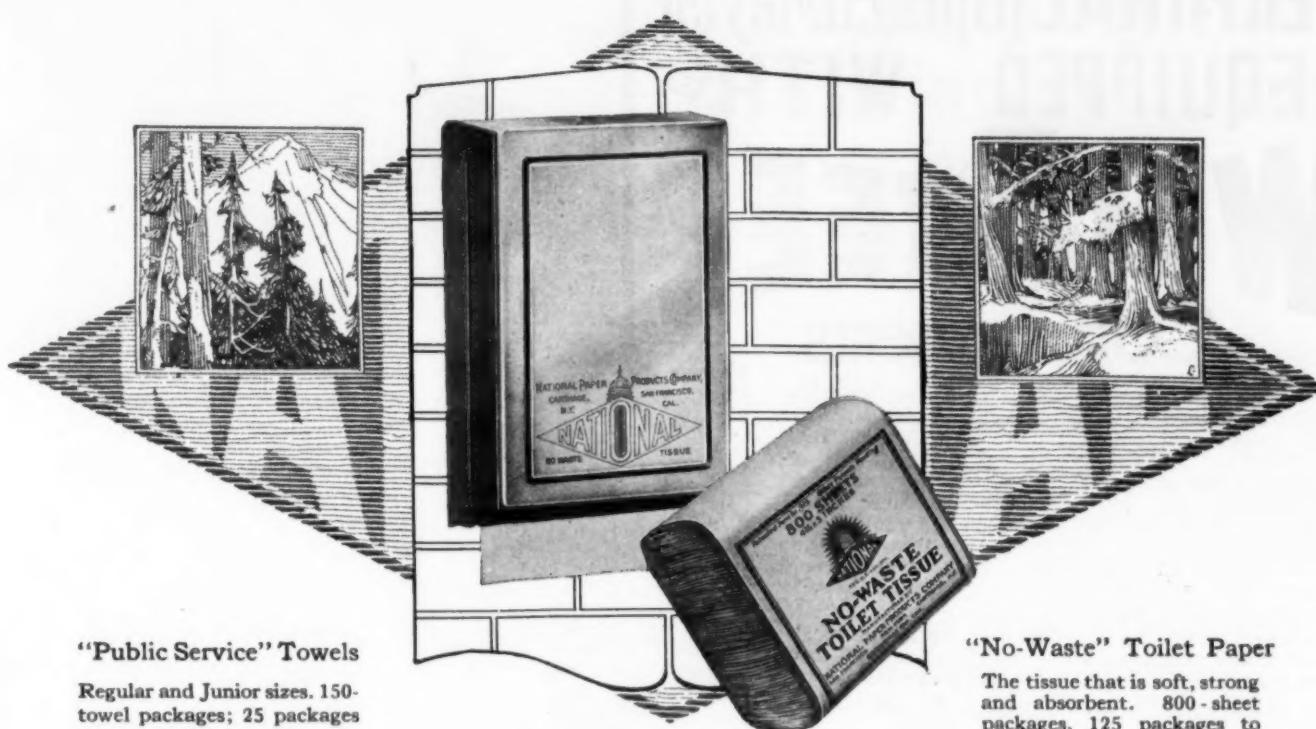
—The United States Bureau of Education and the National Congress of Parents and Teachers cooperated during the summer in a campaign to secure the entrance into the first grade of school children one hundred per cent perfect in health in September, 1925. Commissioner of Education, John J. Tigert, writes as follows:

"Children who can not see the blackboard, who can not hear the teacher's voice, who have not had sufficient sleep, who are undernourished or are otherwise physically handicapped are at a disadvantage in a school where other children are physically sound and mentally alert. Parents should be warned by the number of children failing to pass out of the first grade each year and should prepare their own children during the summer months by having all defects of teeth, ears, eyes, nose and throat corrected. This is merely doing justice to the children and promoting their welfare and happiness."

Certificates will be issued to associations taking part in this campaign. These will be signed by the United States Commissioner of Education and by the President of the National Congress of Parents and Teachers. One type of certificate will be issued to the association entering and carrying through the campaign and another type will be awarded to the association securing a one hundred per cent perfect class of children, according to the condition of the campaign which have been furnished to each association.

—Dallas, Tex. The school board has created a department of health and has appropriated \$25,000 to be spent in looking after the health of the school children. The new department consists of a physician in chief, a woman

(Concluded on Page 120)

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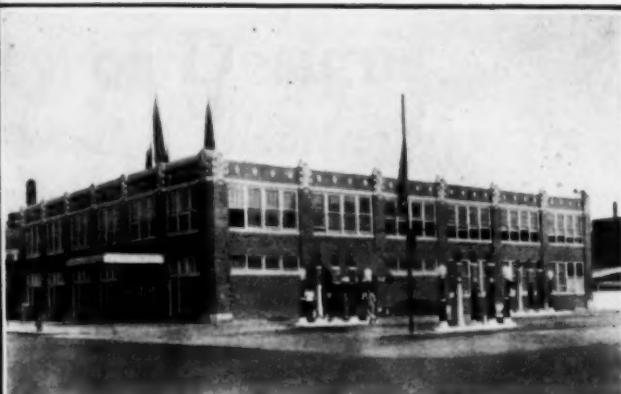
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Above—A battery of WEISTEEL compartments just starting a lifetime of service in the Bus Terminal pictured above. Note the sturdy construction and fine finish. With reasonable care they will last as long as the building stands.

(Concluded from Page 118)

physician, a dentist, and eight or ten nurses working under the direction of the physician. All work will be of an advisory nature and no treatment will be given.

—Dr. John A. Burnett, school physician at Hamilton, O., has completed a survey of health conditions in the schools for the year 1924-1925. The survey shows that the general health conditions are good and that much has been accomplished in improving the health of school children. Two outstanding features of the work the past year were the establishment of a "defective vision" class and of a class for crippled children.

During the last year there were 12,685 examinations and inspections made with 2,459 corrections reported. The contagious diseases reported were: Chicken-pox, 239; scarlet fever, 36; diphtheria, 1; smallpox, 230; mumps, 642.

Complying with a request of the state board of health, a goiter survey was conducted of all children in the schools ten years or more in age. Of the 3,631 children examined, 1,531 were afflicted with incipient or advanced goiter. Of the total number, 986 were girls and 545 were boys. The percentage of goiter cases was found to be 42 plus per cent.

Defects found by Dr. Burnett during the past year numbered 13,396, while he detected a total of 1,439 contagious diseases. Corrections numbered 2,459.

—New York, N. Y. Fourteen new classes for physically handicapped children have been included in the 1926 budget of the board of education. A total of 98 new classes had been requested by the director in charge, but 84 of these were disallowed. For open air classes, a total of \$486,564 was allowed, which included funds for eight of the positions requested. Only two of the twelve positions requested for crippled children's classes were allowed, and the appropriation was reduced from \$657,558 to \$564,351, as against \$560,099 allowed the last year. The classes for cardiopathic children were the only other branch for which additional teachers were allowed for next year.

—A recent report indicates that among children attending the nine school health centers operated by the Children's Aid Society of New York City, malnutrition has diminished 31 per

cent during the last year. The physical condition of 4,000 children has improved considerably.

The school health centers are operated in cooperation with the board of education for children who are physically defective and unable to attend regular public schools. Most of the children suffer from cardiac trouble, malnutrition, orthopedic defects, skin and nervous defects, and defects of vision and hearing.

—Fort Wayne, Ind. An adequate system of medical inspection for safeguarding the health of children attending the schools has been adopted by the school board. The plan goes into effect in September and provides for yearly examinations at the opening of the school year, and daily examinations for children showing signs of ill health.

Dr. L. Park Drayer, a physician and member of the board, is the author of the plan which includes both medical and dental work, and requires a medical staff of one chief medical inspector, seven qualified physicians, one dentist and three nurses. The school district is divided into seven groups, and one inspector is in charge of each two thousand pupils.

—A city-wide survey with special reference to the eyesight of school children has been completed at Jamestown, N. Y. Approximately 8,000 children were examined with the aid of the State Board of Education, the State Commission for the Blind, and the State Committee for the Prevention of Blindness. The study, while primarily an eye survey, included also examinations of the ears, noses and throats. A report on the findings will be made to show the amount of defective vision in the school population, the percentage of cases which may be corrected, the percentage of children who should be given special education, and in addition, those to be responsible for making the yearly examinations of the eyes of school children.

—Following a smallpox epidemic at San Antonio, Tex., during which the health authorities ordered school children vaccinated, the ordinance authorizing vaccination was attacked and the case taken before the court of civil appeals. The ordinance was upheld.

—The Bureau of child hygiene of the Arkansas state board of health has a truck operating

as a child health unit, which tours the counties in northern Arkansas during the summer. In addition to carrying out a schedule of examinations at various towns, the field director of the unit cooperates with the agricultural extension division of the state university in giving health examinations for girls during four of the summer courses. In the last sixteen months, the traveling unit has visited eighteen counties and examined more than 6,000 children of pre-school age.

#### NEWS OF SCHOOL OFFICIALS

—Mr. A. R. Stewart has been re-elected as secretary of the school board of Springfield, Mo. Dr. J. P. Ferguson was elected as treasurer.

—Mrs. Harriet P. Lerch has been elected president of the school board of Hibbing, Minn. Other officers elected include Brice Middleiss, clerk, and Dr. F. W. Bullen, treasurer.

—Mr. A. L. Castle has resigned as secretary of the school board at Chester, Del. Mr. Castle had held the position since 1911.

—The school board of Pearl River, N. J., at its last annual meeting, elected Fred Lange to succeed Dr. R. O. Clock. Mr. G. B. Johnson was re-elected as a member of the board.

—Peter A. Cavicchia was re-elected president of the Newark, N. J., school board. Dr. Edgar A. Ill was elected vice-president. Mr. Cavicchia re-appointed Thomas J. Smith as chairman of the building committee, and Miss J. Isabelle Sims and Louis C. Schwartz were appointed to the chairmanship of the instruction and playground committees, respectively. By virtue of his office as vice-president, Dr. Ill assumed the chairmanship of the finance committee.

—The school board of Hammond, La., has voted that teachers attending dancing parties be dismissed from the service.

—The Dallas, Texas, school board has appropriated \$25,000 for health work in the schools.

—The new member of the Hudson, Michigan, board is Dr. J. H. Timms. Valentine Fisher, a member, was re-elected.

—The county plan for school administration whereby the larger unit comes under the direction of one board has been endorsed by the county superintendents of Colorado.

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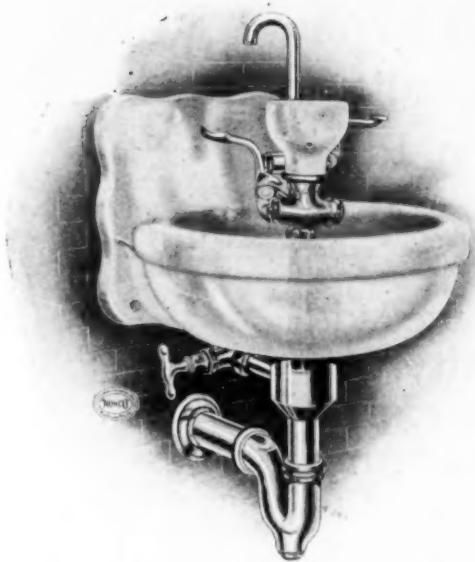


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### 1872 - PIONEER MANUFACTURERS OF PLUMBING FIXTURES FOR SCHOOLS - 1925

#### A REPORT OF A SURVEY OF CONSOLIDATED SCHOOLS

The Department of School Consolidation of the Kansas State Teachers' College, under the direction of M. L. Smith and W. W. Willoughby, has recently completed a survey of 172 consolidated schools in Kansas. Following the completion of the survey, the director, Mr. M. L. Smith, submitted a report of the conditions, with a view of acquainting the people of Kansas with the facts in the matter of school consolidation in the state.

The survey dealt with information gathered from 172 consolidated schools listed to and including the school year 1924-1925, and the data included all consolidated districts maintaining graded school systems. The report shows that there is a total enrollment of 25,986 pupils, with 8,113 in the high school and 17,873 in grade schools. The total area of the school property is 6,106 square miles. The average tax rate is 9.88 mills and the total valuation amounts to \$202,091,796, or an average valuation of \$1,263,073 for each district.

A total of 8,022 children are transported to the schools with the aid of 445 vehicles covering 9,182 miles per day. A monthly transportation expense of \$27,090 was reported by 117 schools. The average expenditure per school for transportation is \$231 per month. This is \$68.70 per bus, per month, or \$3.99 per child, per month.

The report shows a very substantial growth in enrollment, number of schools and teachers, and number of vehicles used for transportation. In 1920 at the time the department was organized, there were twelve consolidated schools. In 1922, just two years later, there were 79 schools, with a total area of 2,307 square miles. In 1922 the enrollment had reached 14,289 pupils in charge of 590 teachers, with 250 vehicles in daily use. In 1925, the enrollment had increased to 25,986 pupils and 1,269 teachers, the schools using 455 busses to transport the children. The number of consolidated schools is now 172 and the area covered is 6,106 square miles. In 1922 there were 4,214 children transported to school, and in 1925, 8,022 children rode from home to school and back again each day.

The report concludes with the statement that there is sufficient evidence to show that Kansas has made considerable progress in developing

its rural educational possibilities. It proceeds to show the extensive field of opportunity for extending and organizing the consolidated school which has proven adaptable to community needs and resources in a very successful manner. A number of recommendations are offered in the direction of further improvement and progress in consolidation activity. Among these are the following:

More emphasis should be given to the grade school upon which the high school superstructure is built.

Training for rural school administration is much needed. Colleges should offer courses in accounting, statistics, transportation, administration, and community problems.

Unit school systems consisting of twelve grades are superior to any other arrangement.

Consolidated schools must increase the area and valuation, which in turn results in greater efficiency and better financial support for administrative purposes.

The county unit plan of organization is urged. Consolidated schools must strive to increase the enrollment and demand specialized teachers to the end that well graded, departmentalized work may be satisfactorily provided in each school.

#### CONSOLIDATION OF SCHOOLS IN NORTH CAROLINA

The state department of public instruction for North Carolina has prepared a valuable summary of the progress in school consolidation during the decades from 1913 to 1923-24.

There were in 1923-24 a total of 634 consolidated schools for white children and 57 consolidated schools for colored children. Of the white schools 130 were four-teacher schools, 85 had five teachers, 76 had six teachers, and 343 had seven or more teachers. The total number of school districts in the state in 1903-04 was 7,931 and at present is 6,909. The reduction of 1,022 districts, or about 50 a year, is due entirely to the establishment of consolidated schools. The decrease is found only in the white schools because the number of colored districts has grown during the 21 year period by a total of 55 districts. The number of one-teacher schools for white children in 1900-01 was 5,411, and during the school year 1923-24 was 1,633. The number of one-teacher rural schools during

the same period decreased from 2,418 to 1,356. The number of schools with more than one teacher increased from 851 in 1903-04 to 3,481. In the former years there were no colored schools and in 1923-24 there were 1,002 colored schools. These are not all consolidated schools, but represent schools in villages and towns which are of rural character.

A good part of the improvement in the number and character of consolidated schools is credited to the successive legislation which has placed the control of rural schools in the hands of county boards of education. Beginning in 1885 there has been considerable legislation encouraging consolidation until 1921 and 1923 when the laws were greatly strengthened by consolidating tax districts and broadening the powers of the county boards of education so as to safeguard the educational opportunities of all country children.

#### CONSOLIDATED VERSUS ONE ROOM SCHOOLS

A comparative study as to the one-room and the consolidated schools of Connecticut was recently made by Emil L. Larsen of that state and published by the state board of education. In drawing his summary and conclusion, Mr. Larsen argues that the cost of consolidated schools is no greater than in one-room schools. He says:

(a) The current expense per pupil in average daily attendance is \$65.32 in consolidated and \$66.19 in one-room schools.

(b) There are no significant differences between the average cost of education in the one-room schools of various towns and the average cost of education in the consolidated schools of the same towns.

(c) Costs per pupil in one-room schools range from \$33.68 to \$187.05. There are 77 schools with per pupil costs in excess of \$100.

(d) The current expense per teacher is \$1,850 in consolidated and \$1,150 in one-room schools. Consolidated schools pay greater amounts for teachers' salaries. They also expend considerable sums for transportation and janitorial service, items for which one-room schools make little or no provision.

(e) The average daily attendance per teacher is 17.48 in one-room and 28.43 in consolidated schools. Three teachers in consolidated schools

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instruct the same number of pupils as do five teachers in one-room schools. The education of each child is the purpose for which the schools of the state are established. Cost per pupil in average daily attendance is the most valid method of insuring comparison in terms of essentially the same unit of service.

His recommendations are as follows:

1. Where conditions permit the state should encourage consolidation and the closing of one-room schools by means of subventions in aid of transportation.

2. Because of the great elimination at the upper age and grade levels one-room schools especially should so plan their activities that interest may be maintained and the minimum essentials provided for.

3. The possibility of reducing elimination

through legal safeguards of the rights of children to complete the work of the elementary schools should be given serious consideration.

4. Careful attendance records and a complete follow-up system must be maintained because of the great number of transfers.

5. A good system of supervision should be maintained to care adequately for the educational needs of and transferring of pupils.

6. A system of cooperation with contiguous states should be established and maintained to facilitate the educational adjustments of pupils who transfer across state lines.

7. Teachers for one-room schools should be as well trained for their particular positions as are those in larger school units. The salaries paid shall be at least equal to those paid the teachers in consolidated schools.

because of the extremely erratic behaviour of such storms. There is also some doubt as to whether any sort of building other than a cyclone cellar would escape serious injury in a storm such as the recent one. These questions have already been the subject of much study and discussion and I do not expect to add anything particularly new to previous knowledge on this subject. Most of the ideas I have to suggest have been previously expressed by others, but a repetition of them at this time may not be without value due to the emphasis which will be given them by the magnitude of the recent disaster.

It may be of interest to briefly consider the question of how great a hazard the tornado really is. Do they occur with sufficient frequency to entitle them to consideration as a probable danger? Is one justified in advising the taxpayers of a community to invest additional money in more substantial buildings if the tornado is a very improbable danger? The following list of the more important storms of the last forty years, which appeared in the Literary Digest of April 4th, 1925, may be of assistance in answering these questions:

February 18th 1884. Six hundred killed in tornadoes which swept Southern States.

April, 1892. Fifty killed in a tornado in Minnesota.

June 20th, 1893. Sixteen killed in the Kansas River Valley.

September 20th, 1894. Seventy-five killed in a tornado in Iowa and Minnesota.

May 27th, 1896. Five hundred killed, several thousand injured in St. Louis, Mo. and E. St. Louis, Ill.

March 30th, 1897. Three-fourths of the town of Chandler, Okla., destroyed.

May 18th, 1898. Forty killed in storm in Illinois, Iowa, and Wisconsin.

April 27th, 1899. Nearly one hundred killed at Kirksville and Newton, Missouri.

June 13th, 1899. More than one hundred killed in Nebraska and Wisconsin; every building but two in town of Herman, Nebraska, destroyed.

May 9th, 1905. Thirty killed at Marquette, Kansas.

May 11th, 1905. One hundred thirty killed at Snyder, Oklahoma.

March 2nd, 1906. Twenty-five killed at Meridian, Mississippi.

April 24th, 1908. Nearly five hundred killed in storms in Mississippi, Louisiana and Alabama.

March 13th 1913. Heavy damage and loss of life in Peoria, Illinois; Vincennes, Indiana; and towns in Tennessee and Louisiana.

May 31st, 1917. Sixty-seven killed in Southeast Missouri and Southern Illinois towns.

June 23rd 1919. Sixty killed in Fergus Falls, Minnesota.

April 25th, 1923. Nearly one hundred killed in towns in Oklahoma.

(Continued on Page 127)

### Some Ideas on School Building Construction Suggested by the Tornado of March, 1925

F. A. Borgsteadt, St. Louis, Mo.

The tornado of March 18, 1925, was the most disastrous storm of this character that has ever occurred. It is believed to have originated near Fort Smith, Arkansas, and after a brief career in Missouri, crossed the Mississippi River and quickly twisted its way through southern Illinois and parts of Indiana, Kentucky, and Tennessee, traveling a total distance of about three hundred miles in five hours.

It left a path of almost total destruction in its wake. Statistics compiled by the Associated Press a few days after the storm showed that over eight hundred people had been killed, about three thousand injured and between three and four thousand families rendered homeless. The property loss was enormous and has been variously estimated, one report placing the damage at about a half billion dollars.

The feature of the storm of special interest was the number of school buildings damaged by the wind with consequent loss of life and injury to many school children. In one small school building at DeSoto, Illinois, 38 children were killed and many injured out of a total of 200 in the building at the time of the storm. At Mur-

<sup>1</sup>An address before the National Association of School Business Officials, Kansas City, May 21, 1925.

physboro, Illinois, two grade schools and a high school were badly damaged, resulting in the death of seventeen children and injury to many others.

The reading of these news items brings to mind other disasters to schools, notably the fires that occur all too frequently in the small, non-fireproof schools still existing in many communities. These fires have taught us many valuable lessons in methods of safeguarding the lives of school children and have undoubtedly emphasized the need for replacing these old buildings with modern, fireproof schools. Now another form of danger has taken its toll of lives. Is it not possible that some lesson may be learned from this catastrophe and its occurrence used to emphasize the need of following safe and conservative principles in designing our school buildings? It was with this thought in mind that the writer visited the scene of the tornado and attempted to obtain from an inspection of the wreckage some idea as to the wisdom or desirability of taking such storms into account when we plan our buildings.

The question of just how to design a building to safely weather a tornado is a complex one

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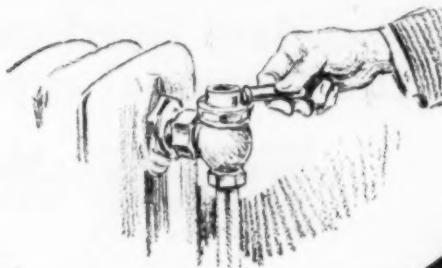
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(Continued from Page 124)

July, 1923. Sixty-three killed in Pomeroy, Iowa. March 27th, 1924. Twenty-four killed in Kansas, Oklahoma, Missouri and Ohio.

June 28th, 1924. More than one hundred killed, three thousand injured and four thousand made homeless in Lorain and Sandusky, Ohio, and nearby territory.

March 18th, 1925. More than eight hundred killed in towns of Missouri, Illinois, Indiana, Kentucky and Tennessee. Property loss over five hundred million dollars.

In connection with this list of storms the following excerpt from the article in the Literary Digest containing the list, is also significant:

"Except in its magnitude, however, and its appalling death list, the storm differed little from the wind storms which a New York editor calls an 'erratic, unpredictable and inescapable condition of life in the Middle West.' Last summer, it is recalled, a tornado went through Lorain, Ohio, with calamitous results, and if similar storms never caused so great a disaster before, they have left many long and bloody records. The tornado just passed is called 'a typical Middle West spring time storm' by Prof. Henry J. Cox, government forecaster at Chicago."

Even if we do not entirely agree with the New York editor, we must admit that in some states the tornado is a frequent visitor. In the list of storms quoted, fifteen states are mentioned, in some of which the tornado has surely appeared often enough to obtain consideration as a probable hazard.

Another phase of the tornado hazard is the impossibility of doing anything to prevent them or of forecasting with any degree of accuracy the time or place of their appearance. Realizing the futility of attempting such a forecast and not wishing to needlessly alarm many people every time the weather conditions seem favorable for the formation of tornadoes, the Weather Bureau never sends out specific tornado warnings. Under such conditions the forecast may be, "tending to severe local storms", or "conditions favorable for severe local storms". These forecasts appear so many times without being followed by tornadoes that we have become accustomed to them and largely disregard them. The tornado, therefore, usually appears without warning; its passage is swift and deadly, and all that can be done then is to bury the dead, take care of the injured, clear away the wreckage and repair the damage. It would seem, therefore, that the only form of preparedness left us is to build more substantial buildings. The question then arises as to whether or not this is advisable or practicable on account of the uncertainty as to just how our best construc-

tion would stand in a storm of this character.

My own impression on first viewing some of the devastated districts was that it would be absolutely hopeless to expect any building to withstand the fury of such a storm. Many blocks of homes were completely destroyed, leaving the ground covered with a lot of small wreckage. A closer inspection of this wreckage, however, convinced one that all of these buildings were of light construction, probably ninety per cent of them frame.

At Murphysboro we found an example of at least partially successful resistance in the very center of the storm district and, by a peculiar coincidence, the example happened to be a school building. The Longfellow school was surrounded by an area that had evidently felt the full force of the storm, for there was very little left above ground for a distance of several blocks from the school in every direction. But some of the walls of the school building remained standing to the roof, two stories above the basement; others stood to the second floor level, and on one corner only, the basement wall stood to the first floor level. And this building was not a first class building, according to our present standards. In fact, it would be rated as about a fourth class building, one having masonry walls, but all interior construction of wood. It could even have been improved upon as a fourth class building for the face brick were bonded to the backing up brick only by metal ties of doubtful value and only about a fifth of the floor joists were anchored in the brick bearing walls.

We saw other buildings with masonry walls that were badly damaged, some almost completely wrecked, but always there was some inherent weakness. Large wall areas with no lateral support, poor mortar, joints not well filled, or face brick not well bonded were some of the structural weaknesses noted where masonry walls had gone down.

These observations created an impression that the subject was at least worthy of further study. In seeking confirmation of this impression in reports of other storms of a similar nature, I was fortunate in finding a very thorough analysis of the St. Louis tornado written by Julius Baier and published in the Transactions of the American Society of Civil Engineers of June, 1897. In this report Mr. Baier says that "much

caused by an intensity of wind pressure that would be neither possible nor expedient to provide against in ordinary structures, but much of it was also due to weak construction. A general observance of the ordinary requirements for good building work would largely decrease the damage due to such storms." He also says that "if it is impossible to foresee the extreme force of the elements or impracticable from economic reasons to provide against them entirely, it certainly is rational to make such modification in design as will reduce the possible disaster and damage to a minimum. A very material increase of safety in this direction can generally be secured at a comparatively small additional expense." It would seem that Mr. Baier has summarized the situation very succinctly and that his conclusions form a reasonable basis for procedure in any case.

There are many theories in regard to the various phases of tornadoes and as to the manner in which the damage to buildings is accomplished by them. As is generally known, a tornado is accompanied by a great reduction in atmospheric pressure. It is believed by many that this drop in pressure and the resultant difference in pressure on the inside and outside causes buildings to actually explode during the passage of a tornado. This would undoubtedly be true if the reduction of pressure took place instantly and there was no chance for equalizing the inside and outside pressure, but the drop in pressure is believed to take place gradually over a period of several minutes, and there is usually sufficient leakage through openings or around doors and windows to equalize the pressure sufficiently to keep the walls from blowing out. So there is some difference of opinion as to just how much of the damage caused by a tornado may be attributed to this explosive action.

The direct action of the wind in a tornadic storm may be separated into three phases. Probably the most destructive phase is the rotary movement of the air, which according to some authorities reaches a gyration velocity of five hundred miles per hour. Almost equally destructive is the strong upward flow of air which has tremendous lifting power if we may believe the many statements as to wells being sucked dry and river bottoms being exposed where tornadoes have passed. During the St. Louis tornado a portion of the timber floor of the Eads

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bridge was torn up and Mr. Baier estimated that this would require an upward lift of over 59 pounds per square foot. A third phase of the tornadic action is the in-rush of air from all sides to replace the air which is flowing upward.

The first mentioned, or rotary phase, must be analyzed in a little more detail, for the mere statement that the wind attains a gyratory velocity of five hundred miles per hour creates an impression that this phase of the tornado is irresistible. Fortunately, however, there is not a very great body of air in motion at this high velocity and upon meeting with stubborn resistance its energy is quickly dissipated. After striking an object such as a large, well constructed building, it seems necessary for the tornado to have an unobstructed path for a time to recover its gyratory velocity and so recoup its energy. For this reason tornadoes are most destructive in territories where towns are small, with wide stretches of open country between them. The many so-called "freak" actions of a tornado, such as the driving of small boards through trees, may be logically explained, for a small body may very easily be set in motion and quickly attain the extremely high velocity of the wind, whereas a much larger object may be affected very little due to what we may call a lack of momentum in the wind, which is dependent upon mass as well as velocity.

This brief explanation of the various phases of a tornado is given because it is interesting to know something of the nature of the force with which we are concerned, even though we are chiefly interested in its tangible effects, as these furnish the ideas that have the most direct application to our problem.

The most common form of tornado damage is that to roofs. Where the building itself stands firm, it is not unusual to find the roof blown off. This suggests at once that roofs are not generally as well secured as they should be. In the case of flat roofs the action of the wind is largely disregarded as it is assumed to have little effect on such a roof. However, the computations made by Mr. Baier from the results of the St. Louis tornado showed a possible direct upward pressure of about sixty pounds per square foot. It would seem advisable, therefore, to provide some substantial form of anchorage for even flat roofs to resist this upward pressure. Many school buildings of the fire resistive

type have wood roofs over concrete ceiling slabs. This ceiling slab furnishes a convenient means for securing the roof at interior points as well as at the walls, and we should not fail to take advantage of this fact.

There is some difference of opinion as to the exact amount of upward pressure we should provide against. It has been suggested that we disregard the weight of the roof and provide sufficient ties to resist an upward lift of ten pounds per square foot; also, that it would be desirable to design roofs to resist an upward pressure approximately equal to the downward pressure usually provided for. Considering the estimate of Mr. Baier as to the upward pressure, it would seem logical to provide for an upward pressure equal to the amount by which sixty pounds exceeds the dead weight of the roof. Whatever opinion we may hold as to the amount of pressure to be provided for there should be no question as to the advisability of providing some sort of anchorage to walls or other heavy parts of the building wherever it is practicable.

Probably the greatest source of disaster in a tornado is the failure of walls in the bearing-wall type of building. This causes the complete collapse of the building, with consequent serious damage to occupants from falling floors and walls. As most of our school buildings are of this type of construction, the question of how to guard against this phase of tornado damage deserves our careful consideration.

The idea that suggests itself almost immediately is that the skeleton type of building would probably be safer than the bearing-wall type. For even if walls and windows were blown out, the frame and floors might stand where proper wind bracing has been provided, and so afford some measure of protection to the occupants. I believe, however, that for buildings of the height usually built for schools, the bearing-wall type may be made reasonably safe. One of the greater weaknesses of masonry walls is large unbraced areas. It is for this reason that churches and other similar buildings fall an easy prey to tornadoes. In school buildings, however, this weakness does not exist, except in auditoriums and gymnasiums, as the floors at frequent intervals furnish the necessary bracing for the walls. Especially, if the floors are of the fireproof type and thoroughly anchored to the walls at frequent intervals, this

necessary element for stability of walls could hardly be improved upon.

As a further precaution, the walls themselves should be built in such a way as to secure the greatest lateral strength possible. Ordinarily we consider walls as compression members in our structure and design them to withstand a vertical load of a certain number of pounds per square inch. But we should not overlook the fact that when subjected to wind pressure either from without or within, a wall must have considerable lateral strength to weather a tornado safely. To increase this lateral strength without adding to the thickness that would otherwise be required, we should pay particular attention to the quality of mortar used, the thorough filling of all joints and the proper bonding together of all parts of the wall. The mortar should be a cement mortar with only enough lime added to make it plastic, as a mortar of this type adheres to brick or stone much more tightly than a lime mortar. As to proper bonding of brick walls, it would seem that the practice of using a bond for the face brick that permits the use of through headers, is much superior to the method of laying up the face without headers and depending on metal ties for bond.

A good example of the stability of brick walls when braced or tied together, was given by the Longfellow school which I have mentioned previously. Here two opposite brick walls stood up to the roof level apparently because they were tied together at the top by two steel beams. It was also noted that walls paralleling the floor joists had gone down, while adjoining walls in which the ends of the joists were anchored, had remained standing. Here again the fire resistive floor construction had a decided advantage, for floors of this type may be easily used to tie in the walls on all sides.

At another school in Murphysboro, a gymnasium located at the rear of the building and exposed to the elements on three sides was leveled to the first floor. The walls of the gymnasium were of brick and were thirteen inches thick, with the face laid up in stretcher bond. The steel roof trusses, carrying a roof of wood, rested directly on the brick walls which had pilasters eighteen inches thick at points of support. The distance between walls was about 50 feet, and the lower chord of the trusses was

(Concluded on Page 131)

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(Concluded from Page 128)

about fifteen feet above the floor. No bracing of any kind was provided between trusses. Considering the number of structural defects and the exposed position of this wing of the building, it is not surprising that it failed while the rest of the building weathered the storm fairly well.

If practicable in laying out a school plan, gymnasiums and auditoriums should not be located in exposed wings. In any case the roof trusses should be carried on steel columns and, if the walls are over fifteen feet in height, they should preferably be of the skeleton type. Wind bracing should also be provided between the trusses so that the frame will not collapse if the walls blow out. These principles may seem elementary, but they are, nevertheless, frequently disregarded.

My trip through the storm district was too hurried to admit of a very thorough investigation, but it left the firm conviction that modern fireproof school buildings, such as are now being built in the larger cities, would have better than an even chance of avoiding destruction in such a storm. The weight of such a building is a large factor in its resistance to wind pressures, since the force required to move or overturn an object is directly proportional to its weight.

The tornado hazard then may be cited as an additional reason for building fire resistive schools, especially in what we may call the cyclone area. The thought of many of the smaller school communities seems to be that the fire hazard is much smaller in such places than in the large cities and that, therefore, a partially fire resistive building, one having fireproof corridors and stairs only, is good enough. I do not see the logic of this reasoning for even if the danger of fire from external sources is greater in the cities, the real fire hazard is from conditions within the building itself, and these conditions are more carefully regulated in the cities than in the small towns. Moreover, coming back to the subject under discussion, we have shown that the tornado hazard is greater in the smaller communities than in the cities.

In conclusion, I wish to say that the principal idea that comes to me as a result of this brief study and investigation is that we should encourage at every opportunity the building of substantial and completely fire resistive schools in even the smallest communities. In this con-

nexion the following statistics showing the percentages of the various types of school buildings in use at the present time may be of interest.

Fire resistive buildings.....	18%
Buildings with fire resistive walls, corridors and stairs, but ordinary construction otherwise.....	17%
Buildings with fire resistive walls only; ordinary construction otherwise.....	44%
Buildings with wood construction above foundation walls.....	21%

We know that there has been a very definite improvement in fireproof school building construction since the Collinwood fire but the figures quoted above show clearly the large opportunity for further improvement in this direction.

#### THE DEPARTMENT OF SCHOOL ADMINISTRATION

During the past 29 years the Department of School Administration has been the single section of the N. E. A., which has afforded an opportunity and a place for voicing the viewpoint of the boards of education on problems and policies of education. The Department, which has been discontinued by action of the executive committee of the association, held well attended final sessions at Indianapolis on June 29 and 30.

The first paper of the first session summarized the most recent advances in school architecture in the United States. The author, Mr. Herbert N. Foltz, discussed the subject from the standpoint of the specialist in school architecture, who is fully acquainted with the history and literature of the subject, and who is in close contact with the best practice and the latest technical advances in the field.

The N. E. A. report on School Architecture was severely criticized in the second paper, read by Mr. George F. Payne for Mr. William B. Ittner of St. Louis. Mr. Ittner said that while many recommendations of the report are splendid theoretically, they are elementary and cannot be applied by the expert architect, who is constantly growing and improving his work in accordance with advances in method of education and architecture.

The final topic of the afternoon, How to Employ Architectural and School Planning Service, was discussed in interesting papers by Mr. Clarence D. Kingsley, School Planning Engineer,

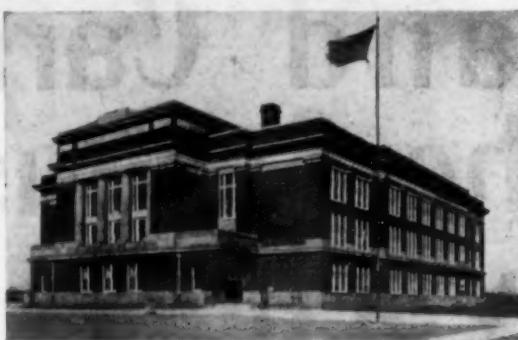
Chicago, and Mr. J. C. Llewellyn, Architect, Chicago. Mr. Kingsley emphasized the viewpoint of the educator and his aim to have each new building adapted to the educational needs and growth of the school. Mr. Llewellyn took up the problem from the standpoint of the practical architect and showed how there must be cooperation in solving the educational and the architectural phases of each new building enterprise. Mr. Llewellyn's paper will appear in a later issue of the JOURNAL.

#### The Second Session

Through an unfortunate misunderstanding, Mr. Samuel Ach, of Cincinnati, was prevented from reading his paper before the Department. A summary of the paper, which appears in full on another page of this issue of the JOURNAL, was read to the Department and heard with considerable appreciation.

The Best Unit for School Government was presented to the Department by H. N. Sherwood, State Superintendent of Public Instruction for Indiana. Mr. Sherwood approached his subject from the historic standpoint and showed how the district system of rural school organization has outlived its usefulness. He declared that problems of support, community solidarity, political representation, and educational efficiency, deserve to be taken into consideration in reorganizing the school unit of government. He showed that in Indiana the town is no longer useful and the county has become the logical school unit. Even the county is not satisfactory in all instances, especially where the natural geographic limits and community interests make other district lines desirable. Mr. Sherwood argued for larger state support of local districts.

The final paper of the afternoon, entitled "The Public School and Religious Instruction," by Mr. N. F. Forsyth, was not read, because of an unfortunate misunderstanding, due to a change in the date of the session. The problem of religious instruction was, however, discussed very fully by the assembly, and its difficulties and limitations were made clear. It seemed to be rather the sense of the majority that definite religious instruction must be provided for every American child, in order that the religious and moral stability of the country and all of its children may be safeguarded. Various plans for excusing children from school to attend religious instruction were described and discussed.



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**SLATE  
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**BEAUTIFYING SCHOOL YARDS**

(Concluded from Page 49)

number of pageants are held here every year.

Many of the schools have bird baths which attract the birds and stimulate an interest in the study of them. The clubs have bought all the plants and set them out. The board of education takes care of them. This has entailed no extra expense. They employ caretakers for each building anyway. Sowing the grass and watering the lawn only gives them healthful exercise.

One year the business men gave prizes which stimulated activity. The schools were graded into classes A, B, and C. All those which had spent as much as \$150 were in Class A, all those which had expended as much as \$75 were in Class B, and those which could afford only \$20 or less were in Class C. The prizes were

\$25, \$15, and \$10. That has not been kept up simply because no one has approached the business men again on the subject.

Trees have been planted on the grounds and are growing nicely due to the excellent care they have received. These yards add to the beauty of the city of course. They serve the public, too. Mothers who cannot undertake a picnic in the park, take the children for lunch on the lawns. Capitol Hill junior high school is in a poor part of the city where no other parks are available. Every night the lawn is full of children, tired fathers and mothers.

Beautiful surroundings are the very beginnings of education and soul growth. The old priests always built the monasteries with regard to the view, on a high hill overlooking a smiling valley if possible. It had such a salutary effect, it gave peace and calmed the soul. We have

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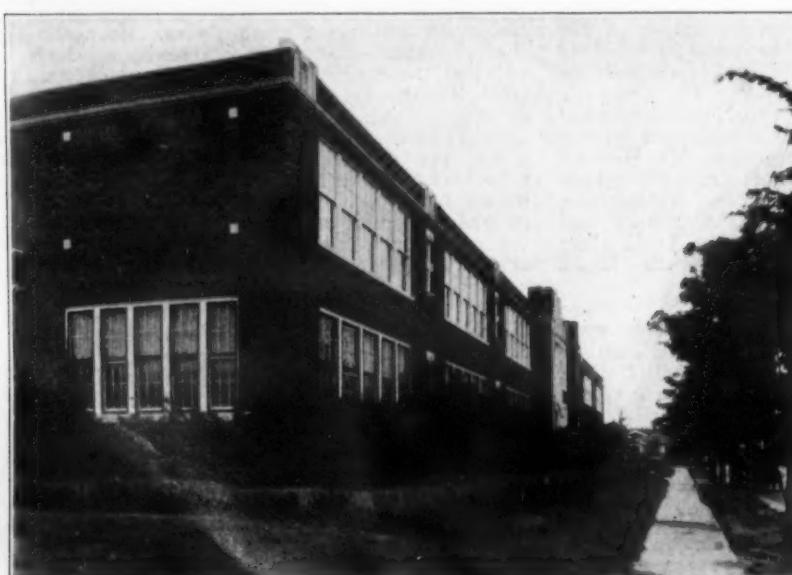
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#### WHAT THE ROSENWALD FUND HAS ACCOMPLISHED

(Concluded from Page 42)

capacity 60,840. The amount of land on which these buildings are located is 1,432½ acres.

The completed buildings, including additions, cost \$2,602,351, contributed by negroes \$413,966, whites \$122,321, the public school authorities \$1,651,258, and The Julius Rosenwald Fund \$414,806 (this amount does not include cost of administration). Both the number of buildings and total cost exceed that of any previous year.

The Julius Rosenwald Fund was incorporated in 1917 under the laws of Illinois for charitable, scientific, educational, and religious purposes. Dr. Francis W. Shepardson, for 25 years professor of American history in the University of Chicago, is now the secretary of the fund. His headquarters are at Chicago.

The headquarters of the schoolhouse construction work are located at Nashville, Tenn., operating through the state departments of the fourteen southern states named. Dr. S. L.

Smith, an educator of unusual energy and ability, is in immediate charge of the operations of the fund.

#### THE PURCHASE OF SCHOOL SITES

(Continued from Page 44)

A few instances of the past, in which timely purchases would have been effective of economy, have been specified by Mr. Womrath as follows:

Ten years ago a half block for the Clara Barton school could have been bought for \$7,500. Now, the same property, improved with dwellings, is worth \$135,000.

Five years ago, three lots for the Lyndale site could have been bought for \$6,000. Recently the same property was acquired for \$12,500 and by the grace of good luck the school board avoided paying \$125,000 for it by interfering with the construction of a proposed apartment house.

Several years ago an unimproved tract of land for the Edison school could have been acquired for \$750. Now, because of a duplex house on

the site, the value has risen to \$15,000.

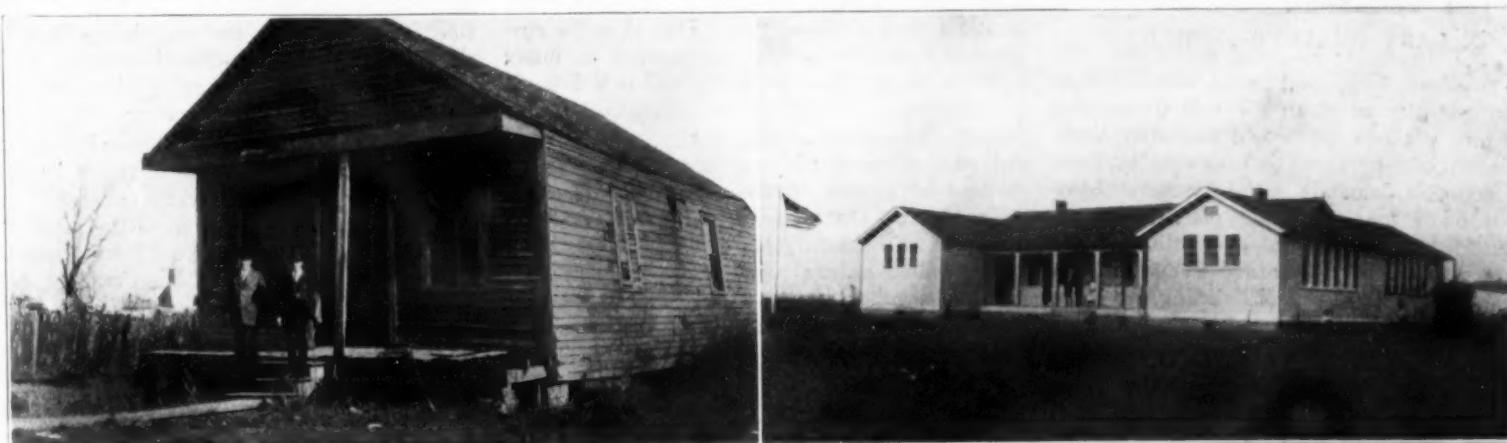
At the Penn school a quarter of a block could have been taken a few years ago for \$22,500. The same property now is valued at \$60,000.

In 1921 vacant lots for the Rosedale school could have been bought for \$5,000. Because of improvements the valuation has risen to \$15,000.

At the Willard school a quarter of a block could have been acquired for \$30,000 in 1919. The property, containing a multiple dwelling now, is valued at \$75,000.

The tax board finally authorized its engineer to make a survey of the situation and to present estimates of the cost of all sites needed for the public school system. The survey of Mr. Al. C. Godward, the tax board's engineer, showed that at the present time there are only about 20,000 available lots in the city and that these are being improved at the rate of 3,000 a year.

He emphasized the point that a dollar spent for sites at this time will mean the saving of a



CUT OFF SCHOOL, ORLEANS PARISH, LA.

Left: Old Cut Off School; Right: Four-Teacher School on Community School Plan No. 4A, facing south, having four classrooms, auditorium and ample cloak rooms.

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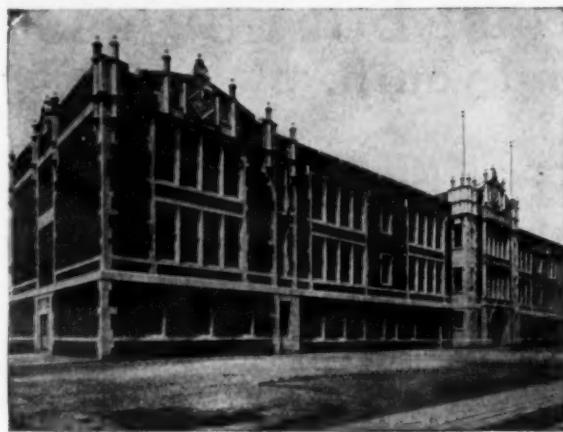
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thousand dollars in the future and stated that if the city waits to buy school sites it will have to pay for the improvement as well as suffer the effect of having valuable property taken off the tax rolls.

Marshalling their array of data, statistics and maps, the school board officers prepared a program showing that an expenditure of a million dollars would be adequate to take care of the schools' realty needs for the next five years. The school board adopted the program and the tax board, backed by public opinion, gave its endorsement. For the first time in the history of the Minneapolis school system, the school board this year is able to place its school building program on a business-like, scientific and economical basis.

According to Mr. Womrath, the allowance will permit the board to buy all unimproved property for the completion of present sites and to acquire unimproved tracts that will be needed in the next twenty years.

## OX CART OR AUTO—WHICH?

(Continued from Page 48)

The standard, in general terms, means simply a given quantity of clean air well distributed at the proper temperature and humidity, sufficient in amount to warm or cool skin surfaces as the occasion demands, and to remove objectionable odors or other air contaminations. We can think of no reasonable objection to this standard. It can be maintained at all times in any properly equipped school building, irrespective of its location or of weather conditions. It means a final percentage of perfect of 94 on the synthetic air chart, and where this percentage is maintained or even two per cent less, there will be no complaints of poor ventilation, of drafts or of improper or uneven heating, by either teachers or pupils.

If the reader agrees that a high standard is

desirable, in fact imperative in schools, and if no serious criticism is offered regarding the standard just outlined, it is perhaps in order to now answer the first question; namely, "How shall our schools be ventilated?" Is it to be by means of open windows or is mechanical aid required?

There is only one answer possible. The best in ventilation is unattainable without mechanical devices. The underlying fact, the basic principle in mechanical ventilation is *control*. If we are to maintain a certain standard, it is absolutely essential that we control the determining factors. The temperature and humidity of the air must be controlled if the most healthful conditions are to be maintained. This requires automatic mechanical devices. If we are to supply clean air, we must control its source and distribution. If we are to predetermine any given set of conditions, the air quantity must be controlled whether it is ten cubic feet per pupil per minute, or thirty. This is not technical knowledge. This is not a surprising fact. It is well understood in many other fields of human endeavor and it is difficult to understand how it can be intelligently questioned. This is a mechanical age. The successful adaptation of physical laws to mechanical devices of human ingenuity are about us on every hand. Our lives are artificial and the salvation of humanity lies not in the return to the so-called natural conditions of our ancestors, but rather in the development and perfection of the mechanical aids to existence.

The water supply in our cities is mechanical. Time was when we could go into the back yard and dig a well and obtain an adequate supply of pure water. This is out of the question at the present time, and our water is pumped by huge machines from distant points from an adequate source. We treat it by filtering, we

purify it by chlorination or render it suitable and safe by mechanical, chemical, or other artificial means, and the present mechanical supply is far safer than the old natural supply in the days of long ago.

Our food supply is becoming more and more artificial each year. The natural supply is dried, canned, sterilized, or otherwise treated to prevent spoiling, to make it safe, and to stabilize the supply. Our milk supply is drawn from inspected and tuberculin tested cows by mechanical machines, pasteurized, bottled mechanically, and delivered by truck or train to the city consumer in less time and in better condition than the farmer of a generation ago could deliver it to the residents of the town in which he lived.

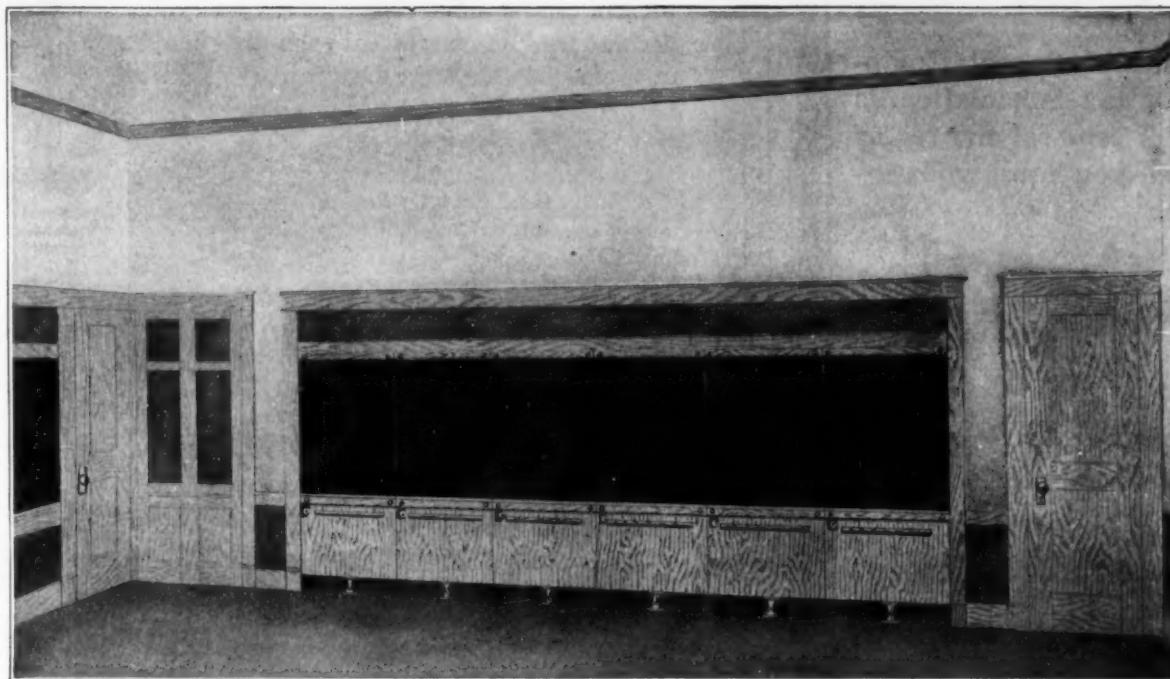
It would be, indeed, unfortunate if the "back to nature cry" of some well meaning enthusiasts induced a return to old methods, or even interrupted the development of our mechanical aids to present day existence. Mechanical ventilation is essential for our well being in schools, theatres and other public buildings, and its development and greater perfection is the rational avenue of progress.

There never has been a sound convincing argument advanced against it and it is difficult to understand how there even can be.

This statement may recall to the mind of the reader the report of the New York State Commission on "Ventilation," particularly certain tests conducted by the commission in cooperation with Dr. S. Josephine Baker, director of the Bureau of Child Hygiene, in the Department of Health of the city of New York. The tests were conducted for the purpose of obtaining information relative to the prevalence of respiratory diseases among school children in fan ventilated, as compared with window venti-

(Continued on Page 139)

# OPEN IT IN A SECOND



## MILLER SCHOOL WARDROBE

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W-5*

(Continued from Page 136)  
 lated classrooms. The study was made during the months of February, March, and April, 1916, also November and December of that year, and January, 1917. The entire study covered a period of approximately twenty weeks, included 5,500 school children distributed through about 76 classrooms in twelve different schools.

We do not intend to go into a detailed analysis of this study at the present time or to criticize their published conclusions. We only quote from the summary and conclusion the following:

"Expressed in the form of a ratio for every 100 absences from this cause (respiratory illness), in the window rooms, there are 118 absences in the fan rooms, or an excess of 18%. For every 100 illnesses among those present in the window room, there are 170 in the fan room, an excess of 70%."

This decided preponderance of respiratory illness of children attending school in fan ventilated rooms as against window ventilated rooms is the important part of the findings in this study, and might be erroneously considered as a valid argument against mechanical ventilation in schools. A careful examination of the report, however, soon convinces one that this is not the case. The high character and reputation of the members of the New York State Commission on Ventilation gives considerable weight to their findings. However, the magnitude of the undertaking made it necessary to assign the actual work, the collection of data in the different classrooms to a corps of nurses from Dr. Josephine Baker's staff in the New York City department of health, and their competency and impartiality determine largely the value of the tests.

The investigation was divided into two studies referred to as the first study and the second study, respectively. Eight schools were included in the first study and twelve in the second. Nine nurses were assigned to the work

in the first study and fourteen nurses to the second. The routine procedure was for the nurses to visit each classroom twice daily, once in the morning and again in the afternoon. During those visits they observed the condition of the air, recorded air motion at the registers, if the room was a fan ventilated room, and made a record of the incidents of respiratory disease among the pupils in attendance. They also took psychrometer readings to determine the wet and dry bulb temperature.

Some light is thrown on the competency of the nursing staff for technical investigations by

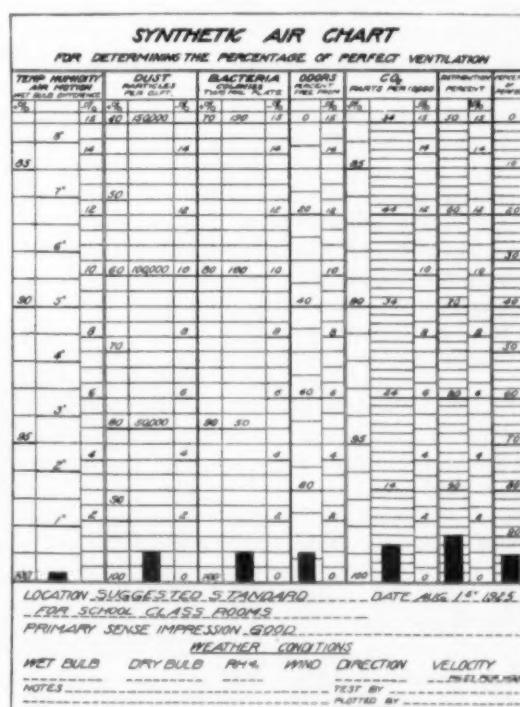
the commission's published report, from which I quote:

"It is also possible that the taking of the humidity readings by the nurses was not always accurately performed, in the dry rooms, the wet bulb being read before the mercury column had completed its fall. These readings are higher than we should expect at this season of the year, etc."

Their impartiality can only be fairly judged by a careful analysis of the entire report. Some of it is quite astonishing.

For the benefit of those who are not familiar with the report in question, we should state that the tests were conducted in three different types of rooms, designated Type "A," "B" and "C." Type "A" is a window ventilated, gravity exhaust room, maintained at a temperature between 50 degrees and 60 degrees Fahrenheit. Type "B" is an open window, gravity exhaust room also, but with a temperature maintained between 65 degrees and 70 degrees Fahrenheit. Type "C" is a plenum fan ventilated room maintained at a temperature between 65 degrees and 70 degrees Fahrenheit.

The nurses voted, among other things, whether the various rooms in types "A," "B" and "C" were too cool, satisfactory or too warm, and in the tabulation on their report we find under the title "Per Cent of Sessions Judged," that "A" rooms were too warm sixteen per cent of the sessions and that "C" rooms were too warm fourteen per cent of the sessions; in other words, rooms maintained at a temperature between 50 degrees and 60 degrees were often *too warm* than rooms maintained at a temperature between 65 degrees and 70 degrees. They also found in the study that 77 per cent of the sessions were *satisfactory* in the rooms having a temperature below 60 degrees while 76 per cent of the sessions were satisfactory in the rooms having a temperature of between 65 degrees and 70 degrees. They also report in the same study that 7.9 per cent of the sessions



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were too cool in the "A" room at 60 degrees while *ten per cent* of the sessions were too cool in the "C" rooms at 70 degrees. The average relative humidity was close to 40 per cent in both studies, although being somewhat higher, as would be expected in the colder rooms. These results are contrary or at least at variance with all experimental work that has been done on this subject before and since. The investigation at the research laboratory of the American Society of Heating and Ventilating Engineers at the Bureau of Mines in Pittsburgh was made by technical men trained in the use of instruments and in the collection and interpretation of scientific data. They found that a temperature of 60 degrees with a relative humidity of 40 per cent was *eleven degrees below* the ideal temperature for this humidity and *eight degrees outside* the comfort zone. The test by Professor Shepard in the Chicago Normal College, the test by the writer in experiments on the desirable wet bulb temperature, the test by Professor Bucy and others, and our every day experience and common sense convinces us that this record is unreliable and of no value.

We have seen a boy in a bathing suit stand on the beach in a raw wind with lips blue and teeth chattering calmly state that he is perfectly warm and comfortable. We have heard the business man boast of the pleasure he takes in his morning cold plunge. We can understand something of the psychology of these prevarications by otherwise truthful individuals, but it is difficult to understand how a corps of impartial scientific observers can vote air conditions at a temperature of 60 degrees and a relative humidity of 40 per cent, satisfactory 77 per cent of the time. The somewhat questionable value of the nurses' votes and of a part of their reports is, however, a matter of relatively minor importance. The entire study

is rendered of little value by reason of the erroneous fundamental conception on which it is based. *To Be Concluded*

#### THE WORK OF THE SCHOOL JANITOR

(Concluded from Page 52)

Where this means of cleaning does not exist, a long-handled wall or ceiling brush, having long soft hairs, should be used. There should also be an extension which may be attached to the handle to brush the ceilings. Some janitors use a cheese cloth wrapped around a floor brush and climb upon ladders to brush ceilings. This is a slow process and the cheese cloth rapidly becomes dirty. Window shades and pictures should be removed from the walls before dusting commences, not only because the walls may be better dusted with them out of the way, but they can be dusted better if taken down. Radiators should be sufficiently high above the floor so that they may be swept under. Drinking fountains can be attached to the wall or can be of the single pedestal type, and cases may be built to the floor. Since these are often of the wrong type and janitors must dust under them, a radiator brush with short, thick hairs that will fit into small places and carry the dirt out with it should be used for this purpose.

#### Summary

1. The school is in duty bound to protect children from the evil effects of classroom dust by using preventive measures and by dusting thoroughly.

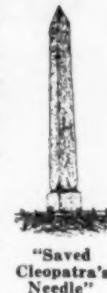
2. The furniture of classrooms should be dusted daily; the woodwork weekly; walls, ceilings, pictures, etc., three times per year; and under radiators, cupboards and cases, two times per week or more.

3. Classroom dusting should be performed in the morning before pupils and teachers arrive, woodwork may best be dusted on Saturday, and walls, ceilings, etc., during the three vacation periods.

## Keep The Water Out Of Your Walls

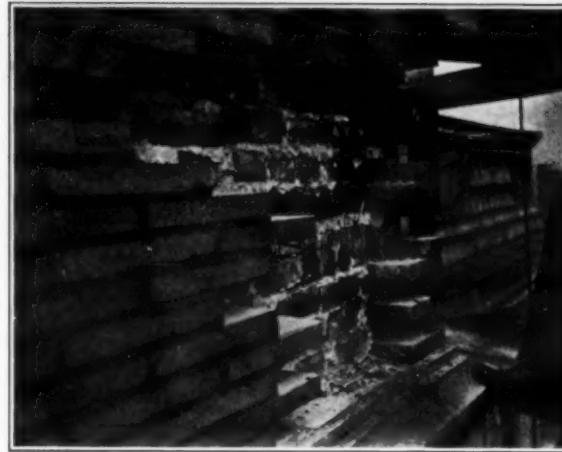
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*The above shows how water, through frost and salt action, can damage joints. All bricks, after the first, were removed by hand.*

4. The best tools and appliances to use, considering quality of results obtained, are the short, soft cord duster with handle, the cotton flannel cloth and the cheese cloth. Of these three the cord duster is most rapid.

5. Dusters treated with oil, kerosene or water are superior for removing dust to those used dry.

6. One duster, only, should be used at a time and one row of desks, only, should be dusted at a time.

7. The back and forth method of procedure is superior from the standpoint of results accomplished, though the flipping method is more rapid when cloths are used.

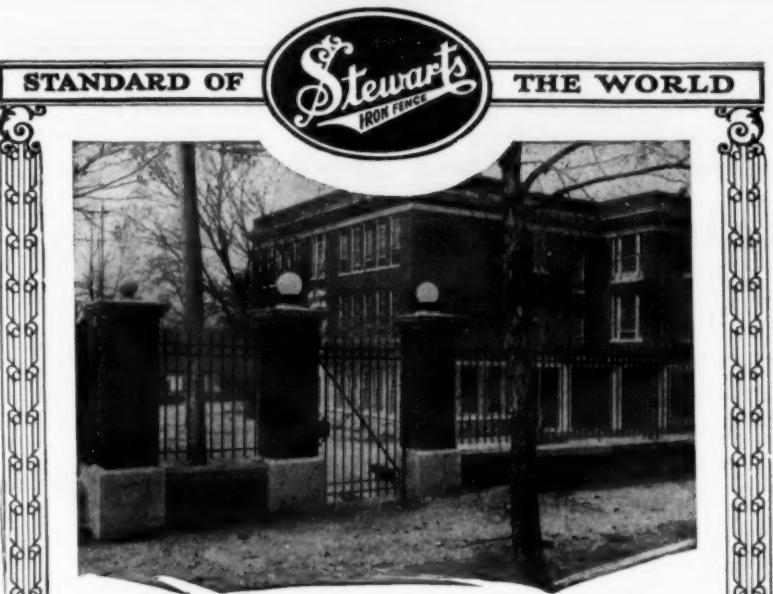
8. It is recommended that dusting be performed with a short, soft cord duster with handle, treated with oil, i. e., furniture polish, or kerosene, and allowed to dry until only enough oil remains to catch and hold the dust and that the back and forth method of procedure be employed in dusting.

#### The All-Year School in Newark

The all-year school problem which has been a source of conflict in Newark, N. J., for many months is not yet solved. The superintendent is opposed to the system, many principals favor it, and the board which had at one time decided to abolish it is now awaiting the results of a survey to be made.

President Peter A. Cavicchia in discussing the subject says: "We think it imperative to say, however, that the school system of Newark cannot operate harmoniously unless this conflict between administrative officers, principals and teachers can be eliminated and we see no way to bridge the chasm except to secure accurate data relating to every essential question pertaining to the all-year schools, and then to agree upon a uniform method of interpreting the data so that conclusions will not be so widely different as we have found them to be."

The plan will be continued until the facts determined by the survey have been discussed.



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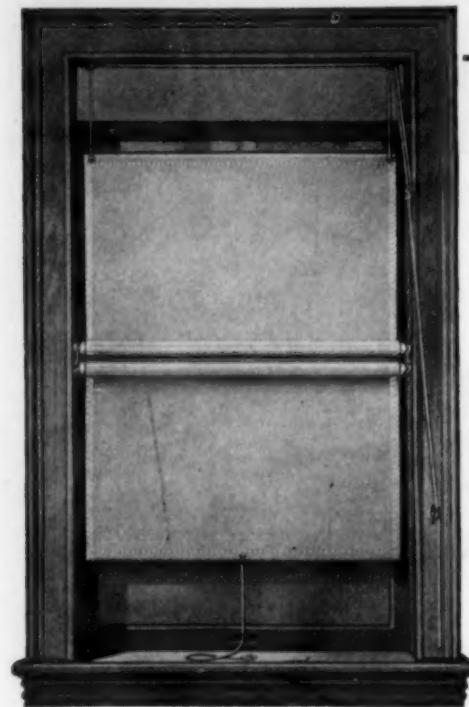
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#### THE PREDICTIVE VALUE OF THE I.Q.

(Continued from Page 54)

Prof. Almack<sup>7</sup> found that the limit of future development did not make the pupils feel despondent. He asserts that the cataloging of an individual according to his intelligence has not produced any marked change in the attitude of society toward the individual. He is of the opinion that the use of intelligence tests has not introduced a new basis for classification, and cataloging of individuals; but rather that it has merely refined and made more scientific a long existing practice.

#### Conclusions

We have found that the IQ is very closely related to the general field of education; that it is constant throughout the elementary and high school period, and is therefore a valid basis for prediction of probable school progress.

We have noted the value of grouping pupils scientifically as contrasted with the old mosaic method. The value of the IQ was found to be high in indicating the subjects which a pupil should elect.

We have noted that administrators and teachers interested in the welfare of the pupil after he leaves school find in the IQ a great help in suggesting the line of work to follow.

Evidence was given to show that the classroom teacher can very materially decrease the number of failures by finding in advance the pupils who will probably do poor work.

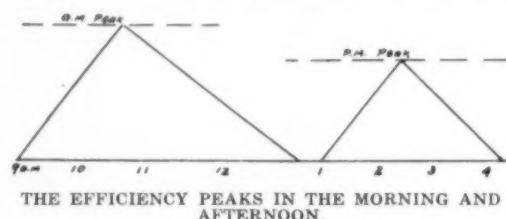
And finally, it was found that classification on the basis of the IQ does not tend to make the pupil despondent if his teacher tries to help him progress despite his handicap.

<sup>7</sup>Almack, J. C., & Others: Democracy, Determinism, and the IQ. *School and Society*, Vol. 18, Sept. 8, 1923, pp. 292-5.

#### FATIGUE AND ITS RELATION TO SCHOOL WORK

(Continued from Page 55)

provide short periods for recesses. These physical exercises are not to be confused with



hard manual work. Such vigorous exercise produces fatigue as readily as mental activities, but the relief drills are of an extremely different character. Respiration is increased and the lungs are filled with fresh air, thus eliminating vast quantities of fatigue poison. The muscles are exercised, increasing the circulation of the blood, and there is a general relief to the whole system which is almost immediately noticeable.

#### Fatigue Coefficients of Different Subjects

Experimentation has undeniably proven that certain subjects are more fatiguing than others. Mathematics and exercises requiring memorizing have been found to produce a greater amount of fatigue than subjects such as drawing or nature study. The ideal curriculum therefore should take recognition of these fatigue coefficients as they are called and arrange a schedule of work in such a way that a highly fatiguing subject is followed by a less fatiguing one and so on as to produce a minimum of fatigue. Also the subjects which have the highest coefficients should be placed in the morning, graduating down to the easier ones for late in the afternoon. Mathematics and foreign languages are shown by fatigue coeffi-

cients to be especially fitted for morning subjects, while history, general science and technical studies may well fit into an afternoon schedule.

Below is listed a number of subjects and their relative fatigue coefficients. The value of one hundred has been arbitrarily assigned to those which are most fatiguing. Various investigators in the field have produced tables with slightly different values, but those below represent a composite of the tables produced.

Mathematics	100
Gymnastics (without music)	100
Foreign languages	90
English language including composition, spelling and grammar	90
History	85
Geography	80
Natural Science	80
Drawing	60
Singing	40

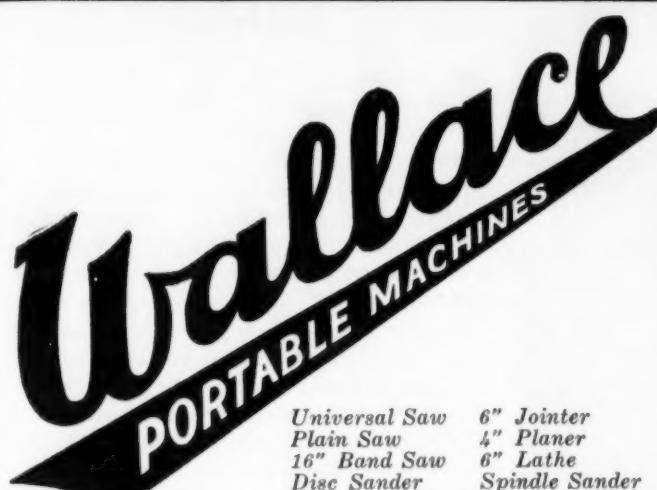
#### Studies in Fatigue

Authorities on educational psychology state that the capacity for work rises to its height about the middle of the morning session in those schools which have morning and afternoon classes. The following diagram illustrates this diurnal variation in fatigue energy.

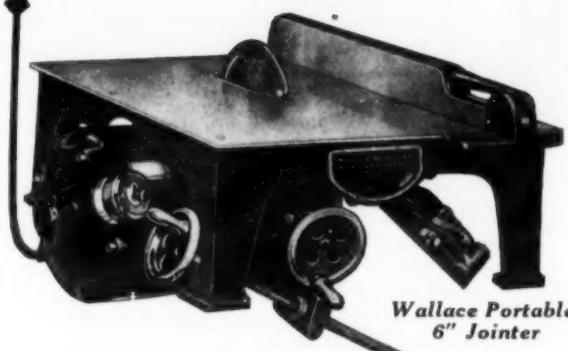
The diagram shows that the capacity for work is at its highest about 10:30 a. m., and from then on there is a gradual drop until the noon hour. The afternoon session is at its height at 2 o'clock, but its peak is not as high as the greatest capacity for work in the morning.

The following graph shows a study in fatigue compiled from data of two classes of students. Figure A represents a class of 35 teachers having each had at least three years of teaching experience. Figure B is of a class of 46 college students. The black line shows the number of words each student could compile in

(Concluded on Page 145)



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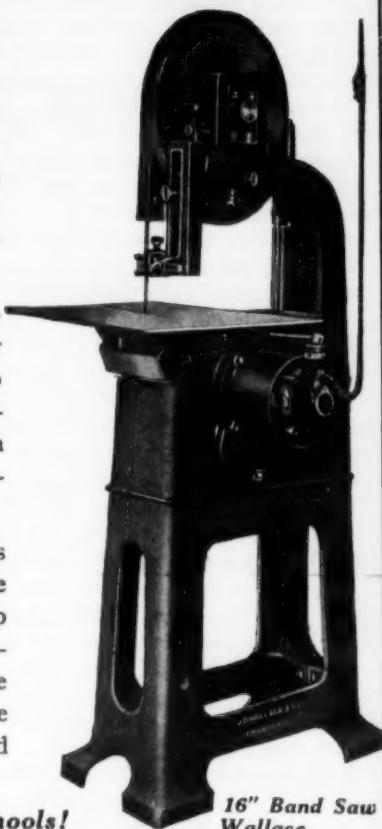
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five minutes on Tuesday from the words "not special." On Friday the words "cold waters" were given and the compilations shown by the red lines. The amount of individual variation was in many cases pronounced, more so among

the college students than the teachers. These two tests were given at nine o'clock in the morning and very conclusively show that there is an appreciable dropping off in efficiency towards the end of the week, both by teachers and students alike.

### Encouraging Summer School Attendance

Interesting facts concerning summer school attendance on the part of teachers have been gathered by Mr. S. E. Syverston, principal of the high school at East Grand Forks, Minnesota. In a study made of 47 cities in Minnesota and North Dakota, Mr. Syverston found that twenty cities make no inducements to teachers and eleven cities make inducements in the way of increased salaries or credits which will lead to higher salaries. In two cities the salary bonuses have been discontinued owing to financial conditions. The city of Fargo, N. D., paid a bonus of \$75 but has been obliged through lack of funds to discontinue the same. Valley City, N. D., paid a bonus during the war, but discontinued it in 1921.

The city of Minneapolis, Minn., encourages teachers to attend summer school purely on a professional basis. Those teachers who do not hold a degree, may by attending summer school get credits toward a degree, which will insure them of automatic increases in salary of \$100 each for five years. These salaries are over and above those which they could receive without the college degree.

The city of St. Paul, Minn., makes an allowance of \$50 per year to teachers who have a college degree and who are teaching in the grades. The rule is in effect only a short time, but it has brought the salaries of grade teachers holding a degree up to \$1,800 per year. The increases are continued so long as the teacher

doesn't receive a salary higher than the corresponding high school salary.

Teachers in the city of Buhl, Minn., are penalized to the extent of their regular salary increase if they do not attend six weeks' summer session at least every fourth year and receive credits equivalent to one-sixth of a standard college year.

In Ely, Minn., no increase in salary is given a teacher after her fourth year, unless she has taken additional training during one of the four summer vacations. In Mankato, Minn., it is required that teachers attend summer school once every three years to hold their positions.

In Larimore, N. D., a bonus of \$50 a year is paid for summer school attendance which results in seven and a half semester hour credits. Owatonna, Minn., pays a bonus of \$50 for summer school attendance. In Gilbert, Minn., a bonus of \$100 is paid for twelve weeks' summer school attendance with credits. The city has a single salary schedule for grades and high schools. In Virginia, Minn., a bonus of \$25 is paid for one-sixth of a standard college credit earned through attendance at summer school, correspondence courses, or extension work.

During the summer of 1925, thirty-one cities reported the following percentage of teachers in attendance at summer school:

Number of Cities	Percentage
1	50.0
2	43.0
2	25.0
4	15.00

2	12.5
4	10.0
2	8.0
3	5.0
1	Occasionally one working for his degree
3	A fair number
7	Did not answer the question

Mr. Syverston's conclusions from his study are that a bonus is not customarily paid to teachers for summer school attendance. The negative method of inducing teachers to attend by penalizing them or by threatening dismissal is also rare. The common bonus is a salary increase and recognition is often given unofficially to attendance at summer school.

#### SOME WESTERN SCHOOL BUILDINGS

On pages sixty-two, sixty-three and sixty-four are illustrations of Western school buildings designed by Mr. W. A. Dedrick, Architect, Billings, Montana.

#### The Greybull School Building

The grade school building at Greybull, Wyoming, is built of brick and concrete and is fireproof, except the roof which is of ordinary wood construction. The building is equipped with mechanical ventilation and automatic temperature control, and cost twenty-four cents per cubic foot, or \$200 per pupil.

#### The Custer County High School

The Custer County High School building at Miles City, Montana, is fireproof except for the roof, which is of ordinary wood construction. The building is equipped with terrazzo floors in the corridors and toilets. The exterior is built of rough, variegated-texture brick and artificial stone trim. The building is equipped with overhead air-line, direct heating, fan ventilation and temperature control. The building was put up in 1921-22, when building costs were at the highest peak. The cost was twenty-eight and one-half cents per cubic foot, or \$280 per pupil.

#### The Forsyth High School

The High School at Forsyth, Montana, is of brick and concrete and is fireproof except the roof. It contains a direct steam heating system with fan ventilation. It cost twenty-eight cents per cubic foot, or \$270.00 per pupil. The cost was increased in part, by the necessity of placing it on piles driven through quicksand to solid material.

### THE PENNSYLVANIA STATE EDUCATION ASSOCIATION HEADQUARTERS

The growing importance of teachers' associations in a number of states is nowhere better illustrated than in Harrisburg, Pa., where the Pennsylvania State Educational Association has recently moved into its own executive office building. The structure is an old home of solid construction, which affords convenient space for the business of the organization.

On March 2nd, the trustees of the permanent headquarters of the Pennsylvania Association purchased the property at 400 North Third Street, Harrisburg, at a total cost of \$52,500. As soon as title was received, an architect was employed to plan the alterations and renovations necessary to make the building suitable for the purposes of the Association. This work was completed in June, at a cost of \$13,600.

That the building is, in the language of realtors, "a good buy," is evidenced by the fact that the trustees of the Association received an offer of \$60,000 for the property before the improvements and alterations had been made.

The building contains on the first floor, the business offices of the Association, including an editorial room, a private office, a large room for the executive council and directors of the Association, a mailing room, and a women's toilet room. In the basement there are stock rooms, storage rooms, and a toilet; also a vacuum cleaner, an automatic hot water heater, a Frigidaire motor, and meters for electric, gas, water, and city steam heating services.

On the second floor of the building there is a modern five-room apartment, with porches and a bath. On the third floor there are two two-room apartments. The trustees have rented these two floors to the executive secretary, at a rental of \$100 per month.

The location of the building is ideal for the purposes of the Association. It is close to the state capitol, and is of easy access to the railway stations and to the hotel and business sections of the city.

Mr. J. Herbert Kelley, secretary of the Association, believes that the building will facilitate his work and will greatly improve the service of the Association to the teachers and the schools of the state.

### VOCATIONAL SCHOOL BUILDING AT BUCKLEY, WASHINGTON

The city of Buckley, Washington, has completed within the last three months a \$60,000 building program including the erection of a vocational building adjoining the Buckley High School, and a four room addition to the grade school.

The vocational building which is illustrated on this page was designed by Mr. V. W. Vorhees, of Seattle, and solves in an excellent



HEADQUARTERS OF PENNSYLVANIA STATE EDUCATIONAL ASSOCIATION, HARRISBURG, PA.

manner the problem of housing the household arts and manual arts, and the commercial departments, which have been badly crowded in the old building. It releases at the same time considerable space which can be devoted to academic uses.

The first floor of the building contains a large room for woodworking, a machine shop, a forge shop, a mechanical drawing room, a wood finishing shop, and storage rooms. The rooms are so arranged that one man can oversee several shops at one time.

On the second floor, there are three rooms devoted to commercial work, a large cooking laboratory, a sewing room with a fitting room adjoining, a cloak room, and a large pantry and store room.

The basement contains space for auto mechanics and agriculture. The building serves the Buckley school district which is a consolidation of seven large school districts and which represents four small high schools. At the present time the district has an assessed valuation of over two million dollars and the school has an enrollment of 230 students.

The vocational building cost \$35,000.

Mr. G. W. Greene is the superintendent at Buckley, Wash.

### GOVERNMENT TESTS CEMENT AND BUILDING TILE

The U. S. Bureau of Standards has just completed a ten year experiment to determine the effect of fine grinding of cement on the strength of concrete.

Five commercial brands of cement were used in the test, each received direct from the manufacturers. Each sample was thoroughly mixed, then divided into two equal parts, one part then being ground in a ball mill for one and one-half hours.

Concrete cylinders 8 by 16 inches were made from both lots of cement, Potomac River sand and gravel being used as the aggregate. The materials were proportioned either 1:2:4 or 1:3:6 by volume. After remaining in the molds for 24 hours the specimens were stored in moist air for 28 days. After the 28 days' curing the specimens were placed out of doors exposed to Washington weather conditions. Compressive tests were made at the 7-day, 28-day, 6-month, 1, 2, 3, 4, 5, and 10 year periods. The extreme variation in fineness in the two lots of any one cement was 20.1 per cent on the standard No. 200 cement sieve.

From the results of these tests the following conclusions may be drawn: No retrogression is shown in the compressive strength of the concretes at the end of the 10-year period. In general, the fineness of the cement increased the strength of the concrete. All cements do not give the same increase in strength with the same increase in fineness. The effect of fineness of cement on the strength of concrete diminishes with age. The 1:2:4 mixes show better increases of strength with the same increase in fineness than do the 1:3:6 mixes.

Two other concrete experiments of the U. S. Bureau of Standards are of interest to school authorities. The first has to do with the adhesion of mortar to brick, both in laying up brick walls, and in stucco and plaster work.

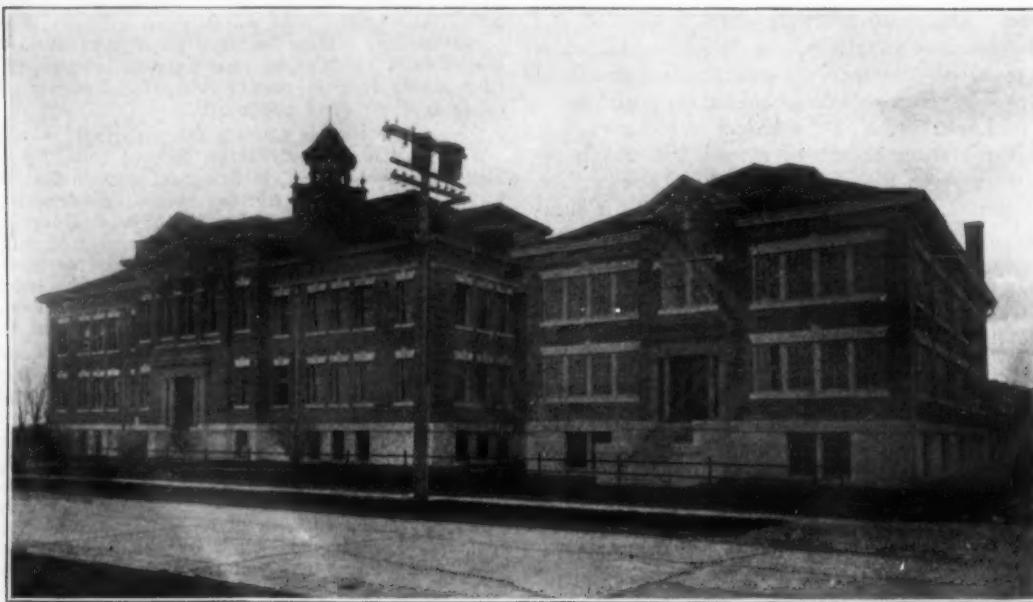
Tests were made with 1:3 cement mortar, where the percentage of water was varied, both in the mortar and the bricks. Where the bricks were used dry, the mortar adhered to the bricks first in contact with it. Where the bricks were wet, the mortar adhered to the second brick. The results show that the strength of the bond between cement mortar and bricks is greater when the bricks are wet rather than dry and when the mortar itself is quite wet.

The other test has to do with architectural terra cotta because of its increasingly wide use in buildings. The physical properties of terra cotta have been determined, including compressive strength, transverse strength, tensile strength, resistance to freezing and the coefficient of expansion.

The tensile strength, as compared with building stone of like absorption, was found to be high.

Investigations of the expansions of the glaze, body and underslips have also been undertaken. The coefficients of expansion of 20 samples of each on these materials have been measured by the interferometer method. Crazing of the glaze in some cases was found to be due to the glaze having a greater coefficient of expansion than the body.

In order to study the serviceability of this ware in buildings, terra cotta which has been in service 2 to 30 years was examined critically on 533 buildings in practically every large city in the United States east of Kansas City, Mo. It was found that terra cotta must meet certain requirements in climates having freezing weather. Keeping water out of terra cotta structures by proper flashing was found to be beneficial, especially where steel which would otherwise rust is used in the structure.



VOCATIONAL SCHOOL, BUCKLEY, WASH. V. W. Vorhees, Architect, Seattle, Wash.



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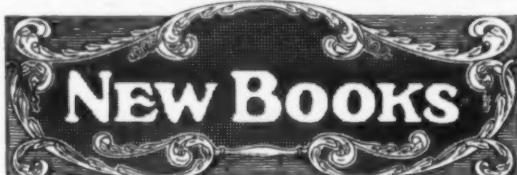
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### Frontier Law

William J. McConnell. Cloth, 233 pages. Price, \$1.20. World Book Co., Yonkers, New York.

This book gives a personal account of the experiences of one of the pioneer lawyers of the state of Wyoming, and includes many stirring incidents of pioneer life among the Indians, among the earliest settlers, and among the miners, gamblers, and "bad" men of the western frontier. The author was one of the earliest attorneys in Idaho and Wyoming and became one of the first United States senators of the state of Idaho and later Governor.

The story is replete with heroic deeds in the course of years in an effort to bring law and justice, and good government into the western country.

The author isn't always clear as between the moral and the legal issues involved in some of his fights, but he is always frank and fearless in telling the story just exactly as he remembers it.

A book of this kind is a more accurate record of the pioneer west than any amount of fiction. It reflects, perhaps even more frankly than may be wise for young children, the shortcomings and failures of human nature when removed from the restraints of established law and order.

### Plan and Tactics for Safety Drill in Schools

Paper, price, 20 cents. Published by the Valley Press, Sidney, Ohio.

This pamphlet discusses the necessity of fire drills in elementary and secondary schools, and illustrates and describes a complete scheme for planning and conducting fire drills. The author suggests a method of following what he calls "Serpentine" and "semi-Serpentine" drills and of making the safest and quickest possible use of fire escapes and stair exits.

### The Hale Literary Readers—Book Three

By Edward E. Hale. Cloth, 244 pages. Price, 60 cents. Illustrated. World Book Company, Yonkers-on-Hudson, N. Y.

This reader is purely literary in purpose and content. The original edition of 1901-2 has been improved by introducing poetry and prose of recent writers—Conrad, Joyce Kilmer, John McCrae, Roosevelt, Wilson—all of whom reflect the spirit and the stirring events of the past decade.

**Principles of Secondary Education**

Willis L. Uhl. Cloth, 692 pages. Published by Silver, Burdett & Co., New York.

This book consists of articles, extracts from monographs, and addresses, and summaries of extended studies—all relating to major problems of secondary education. It is to be expected that so inclusive a volume should contain some contradictory material and some statements of principles which are decidedly debatable.

### First Problems in Chemistry

By Martin Meyer. Cloth, 300 pages. D. C. Heath & Co., New York, Chicago.

This introductory text provides material for a year's work. It emphasizes principles and facts, and devotes especial attention to chemical mathematics. The aim is to give the student a working knowledge of substances and their properties, the manipulation of experiments in the laboratory, and facility in the ready calculation of results.

### Practical Book of Home Repairs

Chelsea Fraser. Cloth, 378 pages. Price, \$2.50 net. Thos. Y. Crowell & Co., New York.

Interest in home mechanics as a shop subject in grade schools, has stimulated the publication of useful books on the materials of common objects about the house and on the methods of upkeep and repair. The present book has been prepared by a shop teacher, and covers the broad field of woodwork, upholstery, soldering, glazing, staining and filling wood, waxing, shellacking and varnishing, painting, wall papering, cobbling, water supply, heating, electrical repairs, concrete, leather—all treated from the standpoint of repair and replacement which the average man can undertake in the home. Within the limits which the author has set for himself the book is comprehensive, dependable, and very useful. The illustrations are ample.

### Voyages of Sir Francis Drake and Sir Humphrey Gilbert

Richard Hakluyt. Cloth, 148 pages. Price, \$0.70. Longmans, Green & Co., New York, N. Y.

In all ages navigation on the high seas has lured men who adventure as against the humdrum of life. The present volume deals with the experiences of the most intrepid navigators in English history. They circumnavigated the globe and visited islands then unknown and came into contact with many strange peoples.

The compiler dug out the most interesting facts in the writings of Hakluyt, a preacher, who lived from the year 1552 to 1616, and who gathered the sea stories of his time. These stories, which deal with Drake and Gilbert, sea voyagers, are reproduced in the original language and bear the thrill of adventure in every line.

### Economics for Citizenship

W. D. Moriarty. Cloth, 12mo, 544 pages. Price, \$1.90. The Macmillan Co., New York, N. Y.

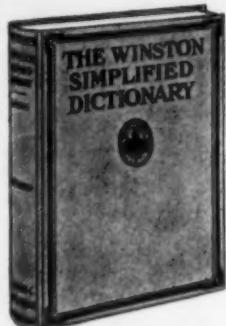
This book departs from the conventional economics text in that the author seeks only to discuss those general principles which he believes every business and professional man, in short, every citizen, should be familiar with in order to carry on his occupation, and to perform his civic duties in his economic relations. In reality, the book covers all of the practical economics which any man need possess.

The book also departs from the conventional in the length and arrangement of the chapters, which contain only a single lesson each and are reenforced with review questions and problems. Each group of chapters covering a major topic is followed by a summary chapter, intended to provide a review and to give the student an understanding of the relation of the topic to other economic facts and problems.

The plan of the book makes it one of the most teachable of volumes published in recent years. Whether the limitation of principles discussed to those required for business and for citizenship will produce a genuine, well rounded understanding of all the phases of the subject is not entirely clear. Thus, in the chapter on socialism, only a limited number of principles are presented in a favorable manner, and no references are made to the fallacies of the doctrines which are clearly un-American.

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Boys and girls throughout the United States—more than 1,750,000—use this dictionary which was made for their needs. It has been adopted by the State of Florida for exclusive use. Mississippi, the state most recently adopting a dictionary for exclusive use, chose it. The distribution of this work, phenomenal as it has been, has just begun. Hundreds of school executives will place their first orders for it this fall.

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FOR TEXTBOOKS

**Everyday Algebra**

Harry C. Barber. Cloth, 384 pages. Price, \$1.24, postpaid. Houghton, Mifflin Co., Boston.

This text for the ninth grade emphasizes so many of the newer principles of teaching mathematics in secondary schools that its simplicity, flexibility and usefulness for the average high school are surprising and gratifying. The year's work is divided into two parts; the first five chapters contain all the essential principles and ample practice material; the last five chapters, which are relatively briefer, contain units of work which are largely practical advanced applications of principles already taught or simple introductory principles of geometry and trigonometry. This last mentioned material forms a stepping stone to further study in later years. The book fully meets the recommendations of the committee on Mathematical Requirements both in content and spirit. Throughout new ideas and processes are introduced as needed and used; the use and application of algebraic methods in life are constantly emphasized by requiring the student to think his way through new situations and by giving him exercises and problems based upon situations taken from business, industry, etc. Problems for rental and verbal solutions are frequent; tests review principles and determine the student's growth in thinking and understanding. The relation to arithmetic and to higher mathematics is constantly made clear. The book gives ample evidence that the author has had other teachers try out the work.

**Singing Games and Drills**

Chester G. Marsh. Cloth, quarto. Price, \$2. A. S. Barnes Co.

Simple games and simple melodies characterize this collection, which is intended for children of the middle and upper elementary grades.

It will be useful in rural schools, public playgrounds, and wherever small groups are to be handled.

**Primer of Sanitation**

By John W. Ritchie. Cloth, 231 pages, illustrated. World Book Co., Yonkers-on-Hudson, N. Y.

Disease germs and germ diseases form the subject-matter of this popular and widely used text. The present edition is a thorough revision of the earlier book and takes into account all of the discoveries of the last ten years, as well

as improvements in public health policies and procedure and in the treatment and prevention of germ diseases. Such matters as the Schick test and vaccination for diphtheria, the Dick test and vaccination for scarlet fever, infantile paralysis and other recently distinguished germ diseases are fully described. Probably the best feature of the book is its positive emphasis upon health habits and balance which it maintains to prevent undue fear of germ diseases on the one hand, and careless disregard of the dangers of these diseases on the other hand.

**Electro-Craft**

Leon H. Baxter. Cloth, 8 mo. 160 pages. Price \$1.50. Bruce Publishing Co., Milwaukee, Wis.

The socalled "finding courses" which have been developed in junior high schools are naturally beginning to include some work in electricity, partly because of the industrial value of the work and partly because it affords such an inclusive group of tool processes and usable skills and such a wide amount of related information.

The present book offers purely prevocational, or better, vocational work and is entirely suitable for finding courses in the seventh and eighth grades. The first half of the book takes up the history of electricity, the phenomena and uses of electricity, the devices and machines for producing and using current, the basic principles and measurements, and the leading inventors and inventions. The second half of the book suggests a series of projects for shop work, which can be carried on simultaneously with the study of part one. The work begins with bell wiring and includes simpler circuits in open knob and cleat wiring for lighting. A group of interesting electrical toys and simple household utilities follows. These include such articles as a galvanoscope, camp lantern, table lamps, annunciator, medical induction coil, telegraph, and wireless receiving sets—all designed to illustrate the principles of electricity in a form attractive and useful. The book is well illustrated.

**Problems in Architectural Drawing**

C. V. Bush and E. D. Townsley. Paper, 64 pages. Large quarto. Price, \$1.08. The Bruce Publishing Co., Milwaukee, Wis.

This introductory course for high schools affords a problem in the drawing of complete

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**Freehand Drawing—Book 2**

Frances Beem and Dorothy Gordon. Paper, 64 pages. Large quarto. Price, 96 cents. Bruce Publishing Co., Milwaukee, Wis.

This second book of a two-year series, affords a basic course. Pencil work, pen-and-ink, and charcoal are the media employed. Design, drawing from still models and figures, lettering, and poster work afford the major problems. The use of flowers and other natural forms, photographs and magazine illustrations, and other easily accessible design materials is suggested. The course emphasizes good technique, correct use of models and materials, and art appreciation through drawing.

**What Is Americanism?**

Compiled and prepared by G. M. Wilson, Ph.D. Cloth, 330 pages, illustrated. Published by Silver, Burdett & Co., Chicago, Ill.

This book seeks to answer the question asked in its title, by extracts from the writings and addresses of great American statesmen, historians, poets, educators, and other leaders. The ideals of our present President are set forth as fully as those of the earliest fathers of the Republic, and of its defenders of the war of '61 and of the recent great conflict.

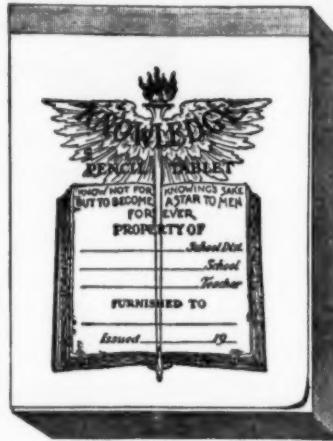
The present reviewer disagrees with the editor concerning the advisability of presenting some of the extracts to children. Our statesmen and other public spokesmen are not always infallible, and it is perhaps only natural that some illogical and indefensible statements should creep into a book of extracts.

**Self-Improvement in English.** By H. W. Davis. Cloth, 344 pages. Price, \$1.60. Double-day, Page & Co., Garden City, N. Y.

This pamphlet discusses the problems of how to develop interest in reading, how to enlarge the fundamental experiences of children, how to provide for individual differences, how to get pupils to see words, how to enable the pupil to acquire a vocabulary, how to overcome inability to understand assignments, and how to teach the use of the dictionary.

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## PUBLICATIONS RECEIVED

**Fire Resistant Properties of Concrete Masonry.** By A. J. Curtis, manager, Cement Products Bureau, Portland Cement Association, Chicago, Ill. Well-known authorities have voiced a growing conviction that the more general use of permanent fire-resistive building materials is very desirable as a means of reducing the immense annual fire losses in the country. The relative economy of concrete masonry as compared to other types of masonry construction has also been a factor in popularizing these building units. Information is now available for a survey of the problem, including reports of fire tests upon brick walls, and the results of strength tests made on concrete, clay and sand-lime brick masonry.

The present pamphlet discusses the use of eight-inch masonry walls, relation of deflections to reuse, bureau of standards' tests, underwriters' laboratory tests, tests on strength of concrete building units, quality control in concrete products manufacture, hollow clay tile walls, demonstrations of hollow concrete building units, exposure fires, and fire insurance rates.

The report is a survey of available data and is a valuable supplement to the underwriters' laboratories report on hollow concrete building units.

**A Uniform Financial Procedure for the Public Schools of Michigan.** Bulletin No. 4, Part I, entitled *A State System of Public School Finance Records*, prepared by the committee on child accounting and unit costs of the Michigan Teachers' Association. Bulletin No. 4, Part II, entitled *The Budget and Accounting Procedure*. Issued under the direction of Arthur B. Moehlman, School of Education, University of Michigan, Ann Arbor.

The three systems of cost accounting worked out by the committee of the Michigan Teachers' Association for the school districts of the state mark a forward step in educational finance and accounting. Their installation will place the school finances on a comparable basis and will make the school accounts a dependable index of the district's unincumbered balances. Part I takes up the subject under four divisions, cover-

ing the budget, cost accounting, costs and reports, and outlines the three general steps in the work including preparation, presentation and adoption, and administration. In Part II much of the data relating to costs and detailed budgeting was omitted for the benefit of the smaller districts. Some attention is given to income, cost accounting rules, and accounting procedure.

**Ventilation of School Buildings.** Published by a joint committee of the National Education Association and the American Medical Association. An argument for open air ventilation.

**The Evening School in Colonial America.** By R. F. Seybolt. Bulletin No. 24, University of Illinois, Urbana. The pamphlet is an attempt to give a collection of facts relative to the early history of the evening school, in order to render a service to historians of education and to others interested in the development of the present schools. The pamphlet discusses early establishments, school terms, seasons and hours, curricula, methods of instruction, and tuition fees. There is a concluding statement and rather complete appendix for reference purposes.

## MR. ROBERTS' WORK RECOGNIZED

Superintendent Randall J. Gondon, of Cincinnati, has just been granted additional leave of absence to November first, in order to enable him to complete his editorial work in Boston. First Assistant Superintendent Edward D. Roberts, who has been the acting superintendent for the past year, is continued in that capacity. In expressing its appreciation of the service of Mr. Roberts, during this term as acting superintendent, the school board referred "to his powers of organization in carrying out the regular routine of the office and to the scientific attitude with which he has approached the many types of problems coming before the administration: to the zeal and untiring energy shown in surveying the field connected with each problem, and in collecting details for reports to aid the board in the solution of those problems and to his clear insight in the large policies of the board in the building program this year."

## TEXTBOOK NEWS

—Austin, Texas. Following a conference held at Austin, all textbooks needed in the Texas public schools were ordered late in July. The orders were based on the requisitions executed by local school authorities and returned to State

Superintendent S. M. N. Marrs, as directed by the supreme court when it granted the mandamus recognizing the validity of the December, 1924, contracts.

The books will cost approximately \$2,000,000, but under the provisions of the law, the state board of education must add certain amounts for emergencies which brings the grand total up to \$2,389,000, but it is entirely probable that the total bill will not go over \$1,900,000.

## PUBLISHING FIRM ONE HUNDRED YEARS OLD

The D. Appleton Company, of New York City, a pioneer in the book publishing field, is celebrating its one hundredth anniversary. The story of these one hundred years of publishing is interesting because of the significant things that have a bearing on the development of publishing and book-selling methods in the United States.

The firm was organized in 1825 with Daniel and William Henry Appleton as the leading figures. In 1839 a branch office was opened in London, which has been maintained to the present date. Shortly before the death of Daniel Appleton in 1849, Mr. William Appleton became president of the firm, and later the five sons came into the partnership.

During one hundred years of publishing it is estimated that over 15,000 books have been announced and published, and there are 3,000 active titles on the list today.

—Mr. W. B. Wise of Graebly, Mo., has been elected superintendent of schools at Mountain Grove.

—George W. Clarke, of Charleston, Ark., has been elected superintendent of schools at Dyer, succeeding G. H. McNutt.

—Mr. Stanley J. Bryant has been elected superintendent of schools at Hobart, Okla.

—Mr. D. W. Parratt, superintendent of the Granite, Utah, school district, has been elected secretary of the Utah Educational Association.

—Miss Mamie B. Lang, of Red Bluff, Calif., has been appointed by the state board of education to fill the office of state commissioner of elementary education. Miss Lang succeeds Mrs. Grace Stanley, who resigned recently to rejoin the faculty of the Chaffey Union High School.

—Mr. Charles Scott of Ironton, Mo., has been elected superintendent of schools at Chaffee.

—Supt. D. Walter Potts of East St. Louis, Ill., has been reelected for another year.

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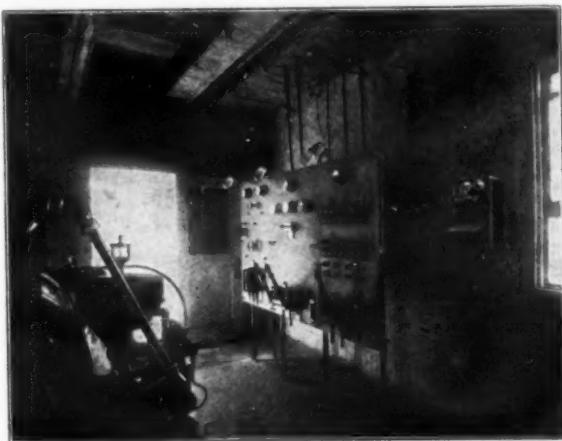
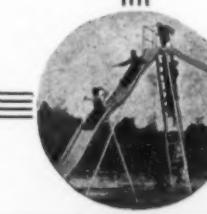
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#### WHAT IS SCHOOL ADMINISTRATION?

(Continued from Page 38)

zens of the community.' Therefore board members should not encourage 'citizens, teachers and others to take their troubles to individual members of the board.' All persons seeking favors or making complaints should be referred to the superintendent before any action is taken by the board, or by individual members. In this way valuable time will be saved, and efficiency of the service will be greatly improved. The board should confine its work to matters of policy, and leave details to the superintendent and his assistants. Some matters are given a great deal of time in discussions of the board which should be referred at the beginning to the superintendent, and action should await his recommendation.

"With reference to the selection of textbooks, I think that all will agree that the method recently used was not a success. Principals and teachers gave much of their time to the work, but it was a responsibility which should not have been placed upon them. The selection of texts should be made upon recommendation of the superintendent. Manifestly it is not possible for him or his assistants to examine all the texts; but from the very fact of the superintendents coming constantly in contact with individual teachers and principals, they are better able to select those most capable of examining texts for them. Therefore the suggestion is made that the superintendent appoint permanent committees of not more than five members each to examine texts as they are issued, and make reports to the superintendent of their findings, with the reasons therefor. A separate committee should be selected to report on each particular study that is carried on in the schools.

#### Relieving Board Members

"It might be advisable to suggest to textbook publishers that their representatives do not call

upon members of the committee, but that if they wish they may submit typewritten briefs on the books that they have to offer. Members of the board should be relieved of the necessity of listening to innumerable representatives of book publishers, with the not unusual result that they know less than they did at the start about which are the most desirable books.

"With respect to the salary schedule; this also should come to the board as a recommendation from the superintendent's office. All the information available from other cities should be secured, and advice received also from the different teaching organizations, but the final decision should rest with the superintendent and his assistants."

#### COMPETITIVE SCHOOL BOND SALES

(Concluded from Page 41)

sary extracts from the proceedings of the board of education showing how step by step that body had pursued the project. His statement, which was complete in every essential detail was issued in pamphlet form, and was duly attested and signed by him.

This enabled the bond houses at distant points to examine the exact status of the bond issue without sending their representatives and to submit their bids by mail. The issue of \$300,000, provided for 4 per cent interest and serial maturities at from 5½ to 14½ years.

The lowest among fourteen bids was \$289,770 and the highest \$292,608. While the presentation of the sale in so complete a manner involved some effort and expense, it is believed that the results more than compensated both effort and expense. The difference between the highest and lowest bidder was \$2,838.

#### PUBLIC DEBT FOR EDUCATION IN OREGON

(Continued from Page 46)

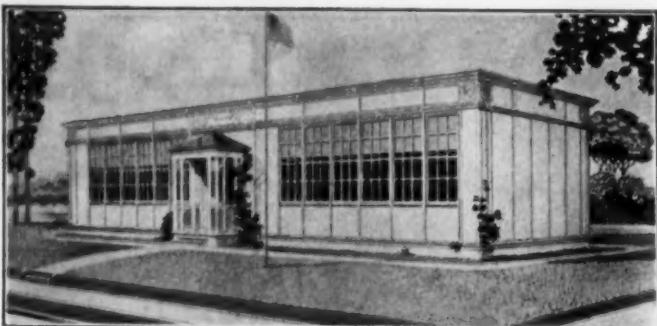
square miles in area? Is citizenship thus localized? Is it not time we were reconstruct-

ing our conceptions of democracy as they are related to school administration?

The correlation between the wealth per child enrolled and the average tax rate paid in each county in 1924 is also negative (—.22). It is not very large, but it indicates the tendency. These inequalities are best seen when individual counties are studied. Clackamas county, the poorest in the state, ranks sixth in the highest tax rate, while Jackson county pays the highest average tax rate and ranks twenty-third, in point of wealth per child. Sherman county, the richest, ranks seventeenth in tax rate. Lake county ranks third in wealth and thirty-first in tax rate. Coos county ranks twenty-seventh in wealth and fifth in tax rate.

There is another point which indicates that the poorer counties and districts are doing more for the support of education in relation to their ability than the richer ones. In nineteen counties out of 27 studied the average teacher's salary in elementary districts having bonded indebtedness is higher than in districts not having bonded indebtedness. This indicates that there is a spirit back of school support. A willingness to bond heavily and a willingness to pay better teachers' salaries seem to go together. This is true to experience. The support of education in communities is determined more by their desire for education than by their ability to pay for it. There is another side to this picture. The zeal for education and a desire for fine and well equipped school buildings have caused some districts to exceed their real ability to have these things. Every child certainly deserves the best that can be provided in matters educational, but what every child gets should be determined by the taxing unit's ability to provide it.

(To be Concluded).



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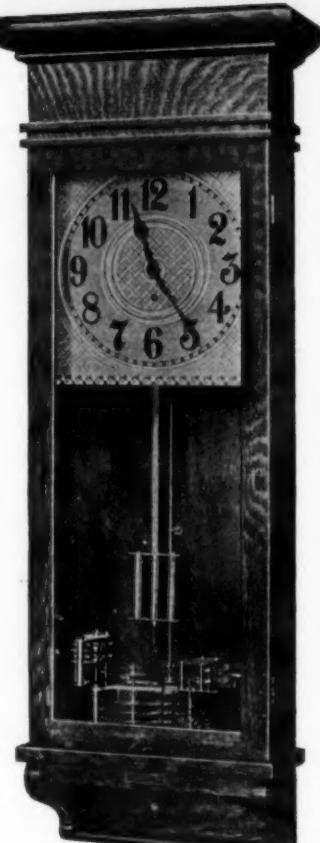
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# School Board Journal

## DIRECTORY OF EQUIPMENT AND SUPPLIES

The names given below are those of the leading and most reliable Manufacturers, Publishers and Dealers in the United States. None other can receive a place in this Directory. Everything required in or about a schoolhouse may be secured promptly and at the lowest market price by ordering from these Firms.

### PORTABLE SCHOOLHOUSES

American Portable House Co.  
Armstrong Co., The  
Asbestos Buildings Co.  
Bossert & Sons, Louis  
Circle A Products Corporation  
Mershon & Morley  
Minter Homes Corp.  
Togan-Stiles Company

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Spencer Lens Co.  
Trans-Lux Daylight Picture Screen Corp.

### RADIATOR HANGERS

Healy-Ruff Company

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Berger Manufacturing Company

### ROLLING PARTITIONS

Union Blind & Ladder Co., Inc.

Wilson Corp., Jas. G.

### SAFETY STAIR TREADS

American Abrasive Metals Co.

### SASH OPERATING DEVICES, STEEL

Detroit Steel Products Company

### SASH, STEEL

Detroit Steel Products Company

Lupton's Sons Co., David

### SASH, VENTILATING

Detroit Steel Products Company

### SCIENTIFIC APPARATUS

Chicago Apparatus Co.

Rowles Company, E. W. A.

### SCREENS—PICTURE

Trans-Lux Daylight Picture Screen Corp.

### SCRUBBING EQUIPMENT

Finnel System, The

### SEWAGE DISPOSALS

Waterman-Waterbury Company

### SHOWERS

Clow & Sons, James B.

Hoffmann & Billings Mfg. Co.

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Holtzer-Cabot Electric Co.

### SIRENS

Federal Electric Company, The

### SKYLIGHTS—METAL

Lupton's Sons Co., David

### SPRAY-PAINTING EQUIPMENT

DeVilbiss Mfg. Co., The

### STAGE EQUIP. AND SCENERY

Clancy, Inc., J. R.

Jackson Corp., A. P.

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Lee Lash Studios

Novelty Scenic Studios

Tiffin Scenic Studios

Twin City Scenic Company

Volland Scenic Studios, Inc.

### STAIR TREADS

Alberene Stone Company

American Abrasive Metals Co.

Norton Company

Safety Stair Tread Co., The

### STATIONERS

Blair Company, J. C.

### STEEL CASINGS-Doors, Windows

Milwaukee Corrugating Company

### STEEL JOISTS

Truscon Steel Company

### STEEL SASHES

Detroit Steel Products Company

Lupton's Sons, David

### STEEL STORAGE CABINETS

Durabilt Steel Locker Co.

Medart Mfg. Co., Fred

### STEEL WINDOWS

Detroit Steel Products Company

Lupton's Sons Co., David

### STOOLS, STEEL

Angle Steel Stool Company

### SWEEPING COMPOUNDS

Robertson Products Co., Theo. B.

### TABLES

Derby & Company, Inc., P.

Gunn Furniture Company

Library Bureau

Mutschler Brothers Company

Rinehimer Bros. Mfg. Co.

Wiese Laboratory Furniture Co.

### TABLETS

Blair Company, J. C.

### TALKING MACHINES

Victor Talking Machine Co.

### TEACHER AGENCIES

National Association of Teacher Agencies

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### TELEPHONE SYSTEMS

Federal Electric Co., The

Federal Tel. & Tel. Co.

Holtzer-Cabot Electric Co.

### TEMPERATURE REGULATION

Buffalo Forge Company

Johnson Service Company

National Regulator Company

### TERMOMETERS

Wilder-Pike Thermometer Co.

### TOILET PAPER & FIXTURES

A. P. W. Paper Company

Bermes Company, Daniel

National Paper Products Co.

Palmer Company, The

Robertson Products Co., Theo. B.

### TOILET PARTITIONS

Clow & Sons, James B.

Mills Company, The

Sanymetal Products Company

Structural Slate Company

Vitrolite Company

Weis Mfg. Co., Henry

### TOWELS

A. P. W. Paper Company

American Airdry Corporation

Brown Company

National Paper Products Co.

Palmer Co., The

Robertson Products Co., Theo. B.

### TYPEWRITERS

Underwood Typewriter Company

### VACUUM CLEANING SYSTEMS

Spencer Turbine Company, The

### VACUUM PUMPS

Nash Engineering Company

### VALVES—FITTINGS

Clow & Sons, James B.

### VARNISHES

Sherwin-Williams Company

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### VENTILATORS

Buffalo Forge Company

Globe Ventilator Company

Knowles Mushroom Ventilator Co.

Lupton's Sons Co., David

### VENTILATING SYSTEMS

American Foundry & Furnace Co.

Bayley Mfg. Company

Buckeye Blower Company

Buffalo Forge Company

Dunham Company, C. A.

Healy-Ruff Company

MaGirl Fdry. & Furn. Wks., P. H.

Nelson Corp., The Herman

Nesbitt, Inc., John J.

Peerless Unit Vent. Co., Inc.

Clow & Sons, James B.

Colt's Patent Fire Arms Mfg. Co.

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Columbia School Supply Co.

Commercial Paste Company

Copper & Brass Research Ass'n

Cyclone Fence Company

Derby & Company, Inc., P.

Detroit School Equipment Co.

Detroit Steel Products Co.

Detra & Co., Inc., John C.

DeVry Corp., The

Dixon Crucible Co., Jos.

Dougherty & Sons, Inc., W. F.

Dow Co. (See Logan Co.)

Draper Shade Co., Luther O.

Dudfield Manufacturing Co.

Dunham Company, C. A.

Healy-Ruff Company

MaGirl Fdry. & Furn. Wks., P. H.

Nelson Corp., The Herman

Nesbitt, Inc., John J.

Peerless Unit Vent. Co., Inc.

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Columbia Mills, Inc.

Williams Pivot Sash Company

### WINDOW GUARDS

American Fence Construction Co.

Badger Wire & Iron Works

Logan Co. (Formerly Dow Co.)

Stewart Iron Works Co., The

### WINDOWS—REVERSIBLE

Detroit Steel Products Company

### WINDOW SHADE CLOTH

Columbia Mills, Inc.

Western Shade Cloth Company

### WINDOW SHADE ROLLERS

Columbia Mills, Inc.

Hartshorn Company, Stewart

Western Shade Cloth Company

### WINDOWS, STEEL

Detroit Steel Products Company

Lupton's Sons Co., David

### WIRE GUARDS

Badger Wire & Iron Works

Cyclone Fence Co.

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#### Early Victim of Bootleg

Teacher—What do you mean by saying that Socrates died from drinking bootleg whiskey? Pupil—Well, pop said that the juice of the hemlock might be classed as wood alcohol.—Boston Transcript.

#### A Little Gamble

All the boys at a large preparatory school were assembled in the Hall. There was a deep hush. The Principal cleared his throat three times.

"I regret to state," he said at last, "er—er—that five boys are reported to have indulged in a gambling game. The names of these boys are known to me personally. I will give them until 10:30 to report to me in my study. Failure to report will mean instant dismissal."

By 10:30 twenty-six boys had reported to his study, and been dealt with.

"Ah," chuckled the Principal, as the last boy had retired, sadder and wiser, "I thought there might be some gambling going on."

#### His Affliction

A teacher had told a class of juvenile pupils that the poet Milton was blind. The next day she asked if any one could remember what was Milton's greatest affliction.

"Yes'm," replied one little fellow, "he was a poet."

#### Also a Dash

It was a lesson on punctuation, and Jimmy was almost asleep at his desk.

"Now," said the teacher, "if I say, 'I must leave, as I have an engagement—by the way what is the time?' I place a 'dash' after 'engagement,' because the sentence is broken off abruptly."

At that moment she caught sight of Jimmy.

"Now then, Jimmy, you are not listening. What was I saying?" she asked him.

"Please, Miss Smith," said Jimmy, with a start, "you were telling us you said 'dash' because your engagement was broken off abruptly!"—Chicago News.

#### Explained

Willie's father always drove him to school in the morning; and sometimes he would stop and ask the teacher about his son's progress. But this morning he let Willie out and drove off in a hurry.

"Goodness gracious, William!" exclaimed Willie's teacher, who had been looking out the window, "what happened to your father? Did he have an accident?"

"Yes'm," Willie replied. "He told the barber not to bob mom's hair."

#### Despite the Ads—

The teacher was trying to give her pupils an illustration of the word "perseverance."

"What is it," she asked, "that carries us along rough roads and smooth roads, up hill and down hills, through jungles and swamps and raging torrents?"

There was a silence, and then Willie raised his hand.

"Please, Miss Holmes, 'there ain't no such car."

#### How Many Legs Has a Sheep?

"How many legs has a sheep?" the teacher asked.

The butcher's small son lifted his eyes inquiringly. "Please, ma'am, do you mean a live sheep or a dead one?"

"Isn't it just the same?" said his teacher.

"No'm," was the reply. "There's a big difference. A live sheep has four legs. A dead one only has two; the two fore legs are shoulders. There are only two legs of mutton."—Youth's Companion.

"Now, sir," said the ambitious young man whose parents had brought him up in the fond belief that he could sing, "you have tried my voice. I want you to tell me just what it is best adapted to."

And, without a moment's hesitation, the singing master replied, "Whispering."—Chicago News.

Professor: "Give me an example of period furniture."

Freshman Student: "Well, I should say an electric chair because it ends the sentence."

#### Hold My Calf!

The following story was told in a public address recently made by Superintendent Frank Evans, of Spartanburg, S. C.:

"Who was George McDuffie? He was born on the Georgia side of the Savannah River. Across the river from his humble home was the plantation of Patrick Calhoun, the father of John C. Calhoun. The story is told that on one afternoon Mr. Calhoun was taking a ride on the Georgia side of the river, when he noticed a young tow-headed boy 'minding the calf' while his mother milked the cow, and he bade them, 'Good evening!' 'Howdy do, mister!' the boy responded. 'Don't you think,' said Mr. Calhoun, 'that a young man of your size might take off his hat when he speaks to a gentleman?' His reply was: 'Yes, sir; and if you'll come and hold this calf, I'll take my hat off.'

"Mr. Calhoun admired the lad's spirit, and he took him to his own home, sent him to school and to college. In college he was the brightest and most successful student in his class. He early showed skill and strength in public speaking. After graduation he became a lawyer and a member of the legislature. Then he was sent to Congress and finally to the Senate. He was regarded as one of the most gifted speakers in the Senate. Whenever it became known in Washington that George McDuffie was to make a speech, the galleries of the Senate Chamber were crowded with people eager to see and hear him. He helped to make Texas one of the states of the Union. In consequence of a serious wound received in a pistol duel, he had to retire from public life. In those days men fought duels, but they did not shoot in the dark from behind masks.

"Mr. Calhoun discovered George McDuffie. Otherwise history never would have known him. How many George McDuffles lived and died in obscurity, we have no means of knowing; how many George McDuffles had their powerful intellects warped by their hopeless surroundings and turned in the wrong direction, doing their state harm instead of good, we can only conjecture."

#### Welcome Relief

"Well, young woman, so you have graduated?"

"Yes."

"Chock full of wisdom and erudition, eh? What will you do first?"

"Plunge right into the silly season."—Boston Transcript.

Teacher (junior geography class)—"What are the principal agricultural products of Cape Cod?"

Charles—"Cod liver oil and codfish balls."

Professor: "What is density?"

Student: "I can't define it, but I can give a good illustration."

Professor: "The illustration is good. Sit down!"—Yale Record.



The Professor: Strange, how backward this tree is for this late season.—Meggedoerfer Blaetter.



#### TRADE PUBLICATIONS

**Issue Handbook on Fan Engineering.** The Buffalo Forge Company has just issued the second edition of "Fan Engineering," a handbook for engineers, architects and students who are interested in correct data on centrifugal and propeller fans, their properties, and applications in the arts and industries. The first edition of this volume was published in 1914 and edited by W. H. Carrier, the well-known authority on air conditioning.

In 1920 a second printing was necessary and recently a thorough revision, edited by Mr. R. D. Madison under the direction of Mr. Carrier, has been completed. The new book brings down to date all of the data and general information on practice and apparatus.

The new edition has been rearranged somewhat so that every subject can be promptly found. The book is divided into three parts: Part I deals with the physical properties of air, heat and humidity, the flow of air, fans and systems of air distribution. Numerous tables and charts are included.

Part II relates to the application of air movements to various types of work for which fans may be adapted. This part includes the latest research data and current practice in the arts of heating, ventilation, air washing, drying, mechanical draft, exhausting and conveying and other applications.

Part III discusses various examples of application of fans to heating and ventilating apparatus. It includes also much material on strength of materials, stresses, balance, etc. An appendix contains specifications, codes, and other general data.

The book is substantially bound and may be obtained from the Buffalo Forge Co., 490 Broadway, Buffalo, N. Y., at a price of \$4 per copy.

**Offers Assistance to Coal Users.** The Anthracite Coal Service, 260 S. Broad St., Philadelphia, Pa., is offering all users of hard coal assistance in solving problems in the economical utilization of hard coal for heating and industrial purposes. School authorities who use hard coal in heating school buildings will find that the Service is ready to handle general problems. The Service represents the leading Anthracite coal producers of Eastern Pennsylvania.

**Anchor Weld Railings and Gates** is the title of Catalog 62, just issued by the Anchor Post Iron Works of Garwood, N. J. This pamphlet illustrates and describes typical anchor fence installations and explains the construction, strength and appearance of the various types of fences, gates, etc.

An experience of over thirty-five years in fence manufacture and erection has demonstrated that certain materials and standards of engineering are necessary to produce a fence which will endure over a long period of time with low maintenance cost. Anchor-Weld Railings and Gates are made in a wide variety of types and sizes for residences, parks, schools, institutions, etc. Their simple clean-cut line are unmarred by braces, lugs or rivets, and their most characteristic feature is the sinkage or groove of the bars which gives a very pleasing effect.

**A Detroit Sales and Service Branch** has recently been opened by The DeVilbiss Mfg. Co., of Toledo, Ohio. Occupying, at 4616 Woodward Ave., a portion of the ground floor and basement of the Garfield building, gives the DeVilbiss Company a commodious and convenient, down town place of business in the Michigan metropolis.

There will be carried at this branch, at all times, a display and stock of the complete DeVilbiss Spray-painting Equipment. Service men will also be on hand to render without delay all possible assistance to the large and rapidly growing group of industrial, contractor, master painter and other users of this equipment in Detroit and nearby places.

**A New "Small" Microscope.** The Bausch & Lomb Optical Company of Rochester, New York, have just put on the market a small Microscope, only six inches high. This is a very desirable piece of apparatus for the school laboratory. Descriptive circular, together with a price list, will be sent on request.